UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK

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LOUIS KLEIN, JR.; FRANK MACCHIAROLA; and AS TRUSTEES,

Plaintiffs,

-against-

R. J. REYNOLDS TOBACCO COMPANY; WILLIAMSON TOBACCO CORPORATION; LIGGETT GROUP, INC.; and

: 99-CV-7392(JBW)
: ROBERT A. FALISE; CHRISTIAN E. MARKEY, JR.,
: United States Courthouse
Brooklyn, New York
: THE AMERICAN TOBACCO COMPANY; B.A.T. INDUSTRIES, PLC; BROWN & WILLIAMSON TOBACCO CORPORATION; PHILIP MORRIS INCORPORATED; LORILLARD TOBACCO COMPANY,
: Defendants.

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TRANSCRIPT OF JURY TRIAL

January 4, 2001
9:00 o'clock a.m.

BEFORE THE HONORABLE JACK B. WEINSTEIN
UNITED STATES DISTRICT JUDGE

APPEARANCES:

For the Plaintiffs:
ORRICK HERRINGTON & SUTCLIFFE, LLP
666 Fifth Avenue
New York, New York 10102-0001
BY: JAMES LAMONT STENGEL, ESQ.
PETER A. BICKS, ESQ.
NESS, MOTLEY LOADHOLT,
RICHARDSON & POOLE, ESQS.
20 Bridgeside Boulevard
P.O. Box 1792
Mount Pleasant, South Carolina 29465
BY: EDWARD J. WESTBROOK, ESQ.
DONALD A. MIGLIORI, ESQ.
ANNE KEARSE, ESQ.

FOR THE DEFENDANTS:

BROWN & WILLIAMSON:
KIRKLAND & ELLIS, ESQS.
Citicorp Center
153 East 53rd Street
New York, New York 10022-4675
BY: DAVID BERNICK, ESQ.

Lorillard Tobacco Co.
Reynolds:
GREENBERG TRAURIG, LLP
Met Life Building
200 Park Avenue
New York, New York 10166
BY: ALAN MANSFIELD, ESQ.
JOEL M. COHEN, ESQ.

Philip Morris:
WINSTON & STRAWN, ESQS.
35 West Wacker Drive
Chicago, Illinois 60601-9703
BY: GEORGE C. LOMBARDI, ESQ.
JEFFREY M. WAGNER, ESQ.
CHARLES MOLSTER, ESQ.

Lorillard Tobacco Co.:
SHOOK, HARDY & BACON, LLP
One Kansas City Place
1200 Main Street
Kansas City, Missouri 64105-2118
BY: GAY TEDDER, ESQ.

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17
18 R.J. Reynolds: RIKER, DANZIG, SCHERER,

HYLAND & PERRETTI, ESQS.
19 Headquarters Plaza
One Speedwell Avenue
20 Morristown, New Jersey, 07962
21 BY: ALAN E. KRAUS, ESQ.
22
23
24
25
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page 4271
1 FOR THE DEFENDANTS: (Contd.)
2 For B.A.T. Industries: SIMPSON THACHER & BARTLETT
3 425 Lexington Avenue
New York, New York 10017-3954
4 BY: MICHAEL V. CORRIGAN, ESQ.
5
6 Liggett Group, Inc. KASOWITZ, BENSON, TORRESBrook Group
Ltd: & FRIEDMAN, LLP
7 1633 Broadway
New York, N.Y. 10019
8 BY: LEONARD A. FEIWUS, ESQ.
9
10 R.J. REYNOLDS: WOMBLE CARLYLE SANDRIDGE & RICE

200 West Second Street
11 Post Office Drawer 84
Winston-Salem, North Carolina 27102
12 BY: THOMAS D. SCHROEDER, ESQ.
13
14
15
16
17
18
19
20
21 Court Reporter: Gene Rudolph
225 Cadman Plaza East
22 Brooklyn, New York
(718) 260-2538
23
24 Proceedings recorded by mechanical stenography.
Transcript produced by CAT.
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1 (The following occurred in the absence of the jury.)
2 THE CLERK: Civil cause on trial, Robert Falise,
3 et al, versus The American Tobacco Company, et al.
4 THE COURT: Good morning, everybody.
5 I have a number of matters on that I would like to
6 take up first, if that's agreeable.
7 I have first a motion by the plaintiffs to preclude
8 reference to Doctor James Heckman's receipt of the Nobel
9 Prize. It is an interesting motion.
10 It is denied.
11 MR. STENGEL: Thank you, Your Honor.
12 THE COURT: The man is entitled to that. I will
13 instruct the jury, make sure they don't give too much weight

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to that.
MR. BERNICK: I'm sorry? Your Honor, I didn't hear that. You will instruct the jury what?
THE COURT: I will instruct the jury to tell them that this is a great honor, but the Nobel Prize doesn't reflect particularly on the issues in this case.
MR. BERNICK: But it does.
THE COURT: It does? How?
MR. BERNICK: Because it's his work.
THE COURT: Excuse me?
MR. BERNICK: It's his work that's germane directly to the case. It is not some accidental thing not related to
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his testimony. It is.
THE COURT: He is a distinguished expert but he didn't get his Nobel Prize for his work on tobacco, did he?
MR. BERNICK: No. But it's directly -- I think that's unfair, Your Honor. It is directly relevant to the testimony he's offering. It is not something he got for unrelated work.
MR. STENGEL: Your Honor, he was retained before he received the Nobel Prize. If the defendants were going to proceed on that basis --
THE COURT: All right. It really is trivial. I don't want to detract from his -- the luster of his prize. I don't think the jury will be particularly affected.
We have here also -- so that motion is just denied.
We have here the motion of the plaintiffs to preclude the testimony of Doctor Frederick Dunbar. I will hear you on that.
MR. STENGEL: Your Honor, those papers were served last night. I don't think the defendants had a chance to read or respond.
THE COURT: All right. I will hear it -- when is he coming on?
MR. BERNICK: Next week.
THE COURT: All right. Then I can put it on for tomorrow. We will put it with tomorrow's motions.
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THE LAW CLERK: Yes, Your Honor.
THE COURT: Now, I have before me, again, the defendant BAT Industries's PLC's motion to strike these three hundred seventy some odd documents. The motion I had made by a distinguished member of the bar from a most distinguished law firm and, therefore, the Court --
MR. CORRIGAN: A very distinguished motion, Your Honor.
THE COURT: Therefore, the Court assumes that it is made in good faith and that it has very considerable merit. The only difficulty the Court has with it is that it is almost impossible to deal with in the present form. Just a cursory statement and then a listing of all the documents. It would be helpful normally under these circumstances to have the documents attached with a statement indicating why the individual documents or all the documents are not to be allowed to be considered by the jury.
MR. CORRIGAN: Ordinarily we --
THE COURT: I just -- it is going to take me forty or fifty hours to go through the transcript.
MR. CORRIGAN: I am not asking you to do that, Your Honor. Perhaps I could explain why that motion was filed in

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the form that it was filed.
You may recall several weeks ago, when there was discussion with the Court and counsel outside the presence of
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the jury concerning the admissibility of documents of one defendant as against another, and the question of coconspirator statements and the issue of -- to what extent the Court should be making a preliminary finding of a conspiracy.
Well, during -- and then there was a separate discussion in connection with the BAT group of companies. You may recall that.
During that colloquy, Mr. Mansfield raised the point that the defendants wanted to be sure that they were protecting the record with respect to their objection as to the admissibility of other defendant's documents as against them, recognizing that Your Honor had already, at least at that juncture tentatively concluded that all of the defendants were involved in a conspiracy.
So what the Court suggested, and the reason why we filed what we did, and I believe Lorillard has done the same thing and other defendants will, is to protect the record.
THE COURT: Excuse me. I haven't seen the other equivalent motions.
MR. MANSFIELD: As I mentioned to the Court yesterday, those will be filed today in the same form as you see.
THE COURT: Okay.
MR. CORRIGAN: I am not asking Your Honor at all to
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go through those documents. This is simply so that for appellate purposes we will have a record that we made that objection and Your Honor suggested in fact that we do it in that form.
THE COURT: Okay. That's fine. Then I will consider --
MR. CORRIGAN: I am not trying to burden the Court at all.
THE COURT: I am sure you are not.
Then I will consider this in connection with tomorrow's argument to dismiss.
MR. CORRIGAN: Fine.
THE COURT: Is that satisfactory?
MR. CORRIGAN: That's fine.
Thank you.
THE COURT: All right. What do we have in the way of new business?
MR. WESTBROOK: Your Honor, we have some exhibits hopefully to get resolved this morning. I think we have made some progress.
I have, Your Honor, Court Exhibit 36-A, which is the documents the plaintiffs used with Doctor Brookes on cross and Mr. Appleton on cross. And we have received a letter in response to -- the Brookes documents first, a letter from Womble Carlyle objecting to one of those which is 9336. 9336
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is the transcript of a BBC program at which Doctor Green talked about causation, and I asked Mr. Brookes, the Court may remember, that's the program that Mr. Brookes had some involvement in potentially trying to get that excerpt taken

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out of the transcript or talking to the BBC about it. I discussed that with Mr. Brookes and we read the portions of that transcript to him of the broadcast at page 3312 of the transcript.

THE COURT: May I see the little piece that you want? I take it, you are only going to put in a little piece of it?

MR. WESTBROOK: The cover page and then the tabbed pages and here, Your Honor, is the --

THE COURT: The tabbed pages?

MR. WESTBROOK: The tabbed portions, Your Honor, which is Doctor Green, and here is the transcript, where I read those to Mr. Approximate and we talked about them with Mr. Brookes.

(Pause.)

THE COURT: On the second tab, you haven't indicated what you wanted to put in. Is that under PT clearly the industry?

MR. WESTBROOK: May I see, Your Honor?

THE COURT: You haven't marked it in the margin the way you did with the first half.

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MR. WESTBROOK: Oh. The first? Yes. Actually, the carry-over. That's --

THE COURT: Just the carry-over?

MR. WESTBROOK: Yes. That's the statement by Doctor Green.

THE COURT: At the top?

MR. WESTBROOK: The carry-over, yes, Your Honor. It carries over.

THE COURT: Well, I --

MR. WESTBROOK: It is the same colloquy that's quoted in the transcript.

THE COURT: I don't see it. You want to use Doctor Green, right?

MR. WESTBROOK: Yes, Your Honor.

THE COURT: You have a paragraph beginning, "I think this is a very naive view"?

MR. WESTBROOK: Yes, Your Honor.

THE COURT: Ending, concern. Then PT goes in.

MR. WESTBROOK: That's the narrator saying who Mr. Green was and then goes over.

THE COURT: Oh, this is Green?

MR. WESTBROOK: Yes, that's Green.

THE COURT: At the top? It is not clear.

MR. WESTBROOK: At the top.

The objection was that it contains irrelevant

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information, unduly prejudicial, cumulative.

THE COURT: I will allow it. It is a little illegible but it comes in as fully redacted.

Okay. What else?

MR. WESTBROOK: Your Honor, that's the only objection I have to the Brookes cross list.

THE COURT: All right. Then may I have it and I will give it to the reporter to put in the record. This is 36-A now?

MR. WESTBROOK: Yes, Your Honor. That's the -- that's 36-A but there is also Appleton cross documents attached on there.

THE COURT: What's the problem with Appleton?

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MR. WESTBROOK: I don't know that there is any problem with Appleton, Your Honor. Appleton cross documents.
THE COURT: Are there?
MR. BERNICK: We have a series of objections to the Appleton documents.
THE COURT: Yes. What are they?
I notice on Brookes you have some marked admitted and some are not. Are you --
MR. WESTBROOK: Some were already admitted. Some of those on the list had already been admitted before we used them with Mr. Brookes. That's just a complete list of what we used.

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THE COURT: Okay. So everything on the list is in.
MR. BERNICK: No, no.
THE COURT: On Brookes. Appleton.
MR. BERNICK: That's not so, Your Honor. The Brookes and Appleton documents were part of one letter. I am not sure that all -- I am going to talk about a handful of them. I am not sure if they are on the Brookes or Appleton lists but they're on one of them.
THE COURT: I plan to admit everything on the list unless there is an objection. What are your objections?
MR. BERNICK: I am not sure which list they are on.
THE COURT: I have them together. It doesn't make any difference.
MR. BERNICK: That's what I am saying.
With respect to 7453, this is -- this one right here.
THE COURT: 7453?
MR. BERNICK: 7453.
THE COURT: It is not listed.
MR. BERNICK: It actually -- it may have the 80035 number.
MR. WESTBROOK: What are you looking at?
THE COURT: Yes. 80035.
MR. BERNICK: It was renumbered. This is part of the problem we have run into.

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THE COURT: What's the problem?
MR. BERNICK: This is the one that was prepared for Imperial Tobacco. It was produced in this case but only because we received it long after the fact in connection with Canadian ad ban litigation. Imperial Tobacco is not Brown and Williamson, doesn't do business in the United States. It is an affiliated company. This deals with a project that was done for Imperial Tobacco and not for us by an outside organization. So it is hearsay as to us.
There is only one portion that was shown and the portion that was shown dealt with project A and actually it was used in the -- a misleading way with the witness. Project A, it appears at the top -- I don't know the page. Top of page two. In the portion that was read, says, project A represents the tactical end by which ITL may achieve competitive gains within the market of today and the future. Unmet needs of smokers that can be satisfied by new or modified products, products which could delay the quitting process are pursued. That was read.
It turns out project A has nothing to do with the unmet needs of smokers. That was a statement made by creative research group, project A is a product modification project.

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It was a very misleading statement read to the jury in a document that we didn't generate, wasn't generated for us. The testimony has now come in to clarify what project A was.

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There is no reason why we should perpetrate this very misleading statement that was put before the jury.

THE COURT: Why do you need 80035?

MR. WESTBROOK: This was a document we showed that Imperial Tobacco was the sister company of Brown and Williamson. We asked Mr. Brookes about this. We also showed that these projects were being discussed at the joint group meetings.

MR. BERNICK: That --

MR. WESTBROOK: Between the various companies.

MR. BERNICK: It doesn't make any difference. This is -- this is a massive document that deals with smoking attitudes in Canada. It was not done for us. Project A was the focal point of the examination with the witness, what project A was. The misstatement was made that it was designed to meet the unmet needs of smokers.

THE COURT: All right. I will take it out. You have the testimony in.

MR. BERNICK: We got this whole series of documents, 34415.

THE COURT: Take one at a time.

MR. BERNICK: Yes. 34415.

THE COURT: Let me see where that is. Yes. I have it.

MR. BERNICK: Yes. Five keys to better records

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management, 34415. It talks about spring cleaning, temporary document rules.

34407, to write or not to write, that's the question.

THE COURT: Wait a minute. 34415? You are contesting that?

MR. BERNICK: Yes.

THE COURT: I will allow that in.

MR. BERNICK: But I want to make an argument here, Your Honor. That pertains to all of these at the same time.

THE COURT: What's the other one?

MR. BERNICK: The other one is 34403.

THE COURT: Wait. Yes.

MR. BERNICK: That deals with records management as well.

THE COURT: Right.

MR. BERNICK: The reason I object to this is that there has been a systematic effort to through these documents say that there was wrongful document destruction at my client's company. They have not proven that up even as to one document, not one. So all this amounts to now is that they are perpetrating documents that deal with document retention and the creation of documents being a claim in the case. That's not a claim in the case. If there was the willful destruction of relevant evidence, that's a claim in the case.

Your Honor gave them tremendous latitude to pursue

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this as a possible theory. But as part of their case and as part of our case they have yet to demonstrate that there actually was document destruction. So enough of the documents that talk about document retention, this is again put at issue

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something that ought not to be at issue in this case at all. You gave them incredible latitude and they failed to discharge their burden of proof.

THE COURT: Those are the two documents under this argument?

MR. BERNICK: Yes. The 34403, 34407, 34415.

THE COURT: I will let it in. It was thoroughly litigated and you will make your arguments which I thought were rather persuasive.

MR. BERNICK: 41115 is -- are notes that -- this is the librarian who took notes on requests to pull materials for Doctor Easterly. Again, another rabbit hole. This dealt with the Deadwood memo. These were the documents that Janus studies, that were the subject of the lawyer's memo saying maybe we will send them back to England. The suggestion was made that the documents were deep sixed. In point of fact, the documents were simply put in storage. They still exist at the company today.

So this big deal was made about documents being pulled and being in some fashion, you know, sequestered or destroyed. It didn't happen. This has now come in. We are

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now taking the testimony of the woman who wrote these notes. Again, a very misleading and prejudicial suggestion to the jury.

THE COURT: What is it? Just this one line marked four that comes in.

MR. BERNICK: It don't make a difference if it's one line or the whole document. It is the fact of it coming in. Request to pull materials for Doctor Easterly. Big job. Much impact.

MR. WESTBROOK: Your Honor, counsel cross-examined about this and pulled out the Deadwood memo and tried to make his point in cross-examination.

MR. BERNICK: But the question, Your Honor, is at what point do they -- do we now have a situation where -- document destruction is a very impactful and suggestive thing to the jury. There ought to be a threshold finding before any of this came in, that there actually was a problem. That was never made, never shown. Now the record is going to be closed and we are still having these documents go back to the jury. It's very prejudicial.

THE COURT: Just that one line.

MR. WESTBROOK: No, Your Honor. The -- he skipped over another line. The librarian notes, have spent many hours on special projects for law, pulling and deleting reports.

THE COURT: Where is that?

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MR. WESTBROOK: That's on the last page, page two.

THE COURT: Show it on the screen.

MR. WESTBROOK: Yes, Your Honor.

MR. BERNICK: That's precisely the problem. That's what the witness then was asked about and it turns out the documents were kept at the company. Again, this -- this is why it's so prejudicial.

MR. WESTBROOK: Your Honor, the problem is we've got the contemporaneous documents that say this. They've got the revisionists who come in and try to explain it away.

THE COURT: Excuse me.

I will allow it.

What else?

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MR. BERNICK: That's it, Your Honor.
THE COURT: Okay. I am giving -- anybody else want to object to documents?
MR. KRAUS: Your Honor, I would like to mark as the next Court Exhibit most of documents --
THE COURT: Excuse me. Excuse me for a moment.
I have before me Court Exhibit 36-A, which has the Brookes cross documents and the Appleton cross documents. Is there any objection to any of those listed on those two pages, other than I have ruled on?
Okay.
MR. CORRIGAN: Your Honor, only this. I haven't seen

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this list and I would like to look at it and if I have a motion to strike, I would make it later today.
THE COURT: All right. Well, I am going -- I have to move ahead. I don't know why you haven't looked at it.
MR. CORRIGAN: Because it hasn't been given to me.
THE COURT: This has been brooded about for days. I am giving it to the court reporter. Would you type into the record at this point as admitted those documents on Court Exhibit 36-A, please. There is one of them that's been excised. If anybody has a motion to strike later, I will be happy to hear it.
Next.
(Court Exhibit 36-A is as follows:)
(Brookes Cross Documents:
435
473
1396
7554
9336
9648
9855
10813
13784
16717
18101

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19671
21388
22881
25934
33829
36867
36983
40176
41227
44102
44105
44106
50734
76050.3792
80041(50314)
Appleton Cross Documents:
435
8919
12933
18107
20419
20461

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20986
21253
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32053
34403
34407
34415
36104
37336
37660
37710
39563
41115
41332
42236
43297
44084
50161
76050.3792
80077
MR. WESTBROOK: Your Honor, we have Court Exhibit 15-A and Court Exhibit 15-A, Your Honor, is a retyped version at the Court's request of Court Exhibit 15. I will hand up to the Court, Court Exhibit 15 which was back on December 18.
THE COURT: Thank you.
MR. WESTBROOK: We had an extensive discussion on December 21 about this culminating on transcript page 2735 when I said in court, Your Honor, do we have -- do we have
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anybody else on the December 18 letter. There was no response. Then I said I will move on to the December 19 letter.
Then Your Honor had ruled on some of the Court Exhibit 15-A documents, so what we say in the transcript on this page is, what I propose to do, Your Honor, we will take the transcript and get an amended one. That's the letter with some of the things that have been ruled out. I couldn't keep up with it, frankly. Then you said what I want from you is a list of documents which will be marked then as Court Exhibit 15-A, which is that letter, what was removed. I am going to hand up to the Court January 1 letter in which we provided to the Court and to counsel Court Exhibit 15-A.
THE COURT: This is 15-A now? Dated January 1?
MR. WESTBROOK: Let me just finish, Your Honor. That's Court Exhibit 15-A.
The defendants had some questions about one or two of the documents on there and we have -- we then sent this letter on January 3 revising 15-A, we think, to meet their concerns.
THE COURT: I will call this Court Exhibit 15-B.
MR. WESTBROOK: Now, this, Your Honor, is actually the revised list. That's the -- final revised 15-A.
THE COURT: I will call this Court Exhibit 15-C.
(All marked.)
MR. WESTBROOK: We think, Your Honor, that that is
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all resolved with everybody. It is some of Court Exhibit 15 retyped and to satisfy everybody's objections, but I need to be clear on that.
THE COURT: Okay. Is there any objection -- excuse

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me. Is there any objection by anybody to anything listed on 15-C as in Charlie?

MR. BERNICK: At this point, I have 15-A. I don't even know what 15-C is.

MR. WESTBROOK: Your Honor, 15-C is just 15-A as you have renumbered it. We have provided it to them. I know -- I know Mr. Bernick is in good faith making these statements.

MR. BERNICK: I haven't seen what was provided. I have got 15-A.

THE COURT: Do you want 15-C? Here it is.

MR. WESTBROOK: This is --

THE COURT: Here is the full compilation, 15, 15-A, 15-B and 15-C, which I am handing over to counsel for the defendant with the respectful request that it be handed back as a package marking on the 15-C those documents that are presently objected to, so we can get this thing decided.

MR. BERNICK: We object. I object to 15-A. I said this yesterday. I read the transcript yesterday. There was an explicit discussion of the December 18 letter before the plaintiffs closed. We went through every item that was being proffered. There were all kinds of lists that were being

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offered up and only selected documents off those lists were actually proffered. We argued them all.

The only thing that was to be left over were the dribs and drabs. That became the subject of then another long letter on December 21, which we went through yesterday.

We strenuously object to this effort to put in whole new lists of documents after the fact and after our witnesses have already come in and testified. It is patently unfair. It should not be permitted. I object to every single one of those documents.

THE COURT: If it is just a blanket objection, without going over it document by document, I will deny your objection. I can't deal with blanket objections.

If I see the exhibits, one by one, I will take them up.

May I have that list again for a moment, please?

MR. BERNICK: We have a laundry list of exhibits. We can go through them one by one, Your Honor. It doesn't cure the prejudice. These documents are cumulative. Some of them are new. Our witnesses are no longer on the stand.

MR. WESTBROOK: Your Honor, most of them were ruled upon. This was a list -- retyping a list the Court had ruled on.

MR. BERNICK: If they were ruled on, why are we dealing with them again?

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MR. WESTBROOK: Because the Court asked us to retype the list and submit it as 15-A.

THE COURT: Okay. I have forty-three documents. I will go over them tomorrow, document by document.

MR. BERNICK: Note, Your Honor, we now believe the plaintiffs are substantially over five hundred documents that were part of the original guidelines for the plaintiffs.

THE COURT: Put this on that pile, please.

Have the documents ready at some time tomorrow. I will go over them document by document.

MR. WESTBROOK: Your Honor, for the record, we don't believe that after we have argued these things and had no objection --

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THE COURT: Excuse me. Let's not get bogged down on 15-C.
MR. WESTBROOK: Okay, Your Honor.
THE COURT: That's for tomorrow.
MR. WESTBROOK: Your Honor, we have --
THE COURT: We will have to take a break for just a moment. I have another motion on in another case.
(Recess taken.)
THE COURT: Back to the trial.
MR. WESTBROOK: Your Honor, we have -- we have Court Exhibit 41, Your Honor, which was the cleanup list. That was the list on the day we cleaned up that we provided after we

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went back that evening. I will hand it up to the Court. I can run through the categories of the documents on that list.
THE COURT: How does this relate to 15-C?
MR. WESTBROOK: It doesn't, Your Honor. 15 was an old list. This is the cleanup list. 15-A, 15-B, 15-C just were all from an old list.
THE COURT: Okay.
MR. WESTBROOK: All right. Court Exhibit 41, Your Honor, we have a -- groups of documents. We have categorized them in the letter. One was a group of documents used with Doctor Wigand and in fact those were actually admitted by the Court. But we put them on the list to alert everyone to them. We have a list of documents used with Doctor Farone. Then we have a -- the first group on that letter is a group of miscellaneous cleanup documents that we wanted to move into evidence, and the last group is a group of documents concerning the Johns Manville smoking ban.
THE COURT: Okay. Well, what are the defendants objecting to in this Court Exhibit 41?
MR. BERNICK: Exhibit 43145, a May 6, 1977 memo.
THE COURT: Yes?
MR. BERNICK: It was never used, never shown to a witness, never used.
MR. WESTBROOK: That's correct, Your Honor. This is on the cleanup list of smoking ban documents we wanted to move

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into evidence. We preserved our right to do that.
THE COURT: Let me see the document, please.
Thank you.
MR. BERNICK: It makes reference to the possibility of arguing about the medicine and that was never done, as the Court is now -- been apprised through the testimony of Mr. Kotin. The position was never a medical position. It was always a labor relations issue. This is the kind of thing that if we had a witness on the stand --
THE COURT: Excuse me. This is in connection with the Texas plant?
MR. WESTBROOK: The brief, yes. The brief --
THE COURT: No. This is so clearly kind of a privileged document I don't want it. Excluded. 43145. Take it back, please. I don't want it. Strike it off the list.
MR. BERNICK: 75500.006.
THE COURT: Yes?
MR. BERNICK: Is a document, I will take all the tabs off, again, it's not been used with any witness, including Doctor Kotin who testified. It's the Johns Manville smoking program and you will see that it actually contains a wide variety of different documents, all of them stapled together

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Source: http://www.tobaccoindustrydocuments.ucsf.edu/docs/szgd0001

in -- I don't know if the tabbed portions pick it up but there was a lot of inflammatory language from Johns Manville all about smoking. So it's not really germane. It's not germane

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to the smoking ban itself. It's a very self-serving document about Manville's antismoking efforts.

If it were to have been used, it should have been used with the witness so it would be amenable to some --

THE COURT: I don't understand why you are objecting to it. What's the problem? That they knew that smoking was dangerous?

MR. BERNICK: No. But it's a lot of self-serving statements by Manville about how important smoking is to their problem. Again, if there was a witness on the stand, it would be a different matter, but there was no witness on the stand.

(Continued on the next page.)

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MR. WESTBROOK: Your Honor, the document shows that we were trying to bring to the attention of our people what Dr. Kotin talked about in his deposition, this problem with smoking and asbestos.

MR. BERNICK: They have got that in with Kotin ad nauseam.

MR. WESTBROOK: No, your Honor. It certainly wasn't in ad nauseam. They come up here now and say, because this document wasn't used with a witness, it can't come up, when this was the clean-up list. We don't think that's a proper objection at all.

MR. BERNICK: There is a problem with these documents being tendered weeks after their case closed.

MR. WESTBROOK: The problem is that counsel kept delaying and delaying us.

MR. BERNICK: There was no delaying.

MR. WESTBROOK: As we told the court on the day we closed, we didn't submit it before we closed, because they wanted to get started with their witness. It's not a valid objection to say it was submitted weeks after our case closed. It's not factually accurate.

THE COURT: These weren't used on the deposition of Dr. Kotin, were they?

MR. BERNICK: No, your Honor.

MR. WESTBROOK: No, your Honor. This particular

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document was not used in the deposition of Dr. Kotin, that's correct.

MR. BERNICK: It was not used with any witness.

MR. WESTBROOK: Your Honor will recall --

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THE COURT: I'm really reluctant to let this in now. Some of it is inflammatory. I have here the bottom of one page, presentation of Kotin, May 12, 1977, before the National Commission on Smoking and Public Policy: "Cigarette manufacture, distribution and sale constitutes the most pervasive human scourge known to man."

MR. WESTBROOK: Your Honor, if they have some particular parts that they think are inflammatory or prejudicial, we can look at it with them, and see about redacting those. Our intention in the document is to get in the fact that Johns-Manville was sincere.

THE COURT: Try to redact those portions like that. Otherwise, I'm going to let it in. So, you have an opportunity to try to redact them by consent without conceding that the document is admissible, and, as redacted, it will come in.

If you can't agree, I'll go through it myself page by page and redact it myself.

What else?

MR. CORRIGAN: Your Honor, with respect to one of the documents, Court Exhibit 41, Plaintiff's Exhibit 26290, Court

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page 4299

Exhibit 41 --

THE COURT: Wait a moment. 36290.

MR. WESTBROOK: It was a typo. We corrected it to other counsel. 36290.

MR. CORRIGAN: Do I care about that?

MR. WESTBROOK: I don't know that you do.

(Pause.)

MR. CORRIGAN: If Mr. Bernick has no objection, I have no objection.

THE COURT: Yes.

Excuse me. On this list, does anybody have any objection to this list?

Court Exhibit 41, all documents are admitted, subject to the ruling on redaction.

I'm handing Court Exhibit 41 to the reporter, with the request that he add it in the record at this point, all those documents listed on Court Exhibit 41, without any other typing. Just list the document numbers.

Here you have 43782 P.

MR. WESTBROOK: That was a notation it had been published.

THE COURT: Leave all those letters and everything else out. Just put the numbers in. Okay?

MR. WESTBROOK: Yes, your Honor.

THE COURT: Here it is, Court Exhibit 41.

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page 4300

(Court Exhibit 41):

5200.

11372.

43782.

43783.

13969.

11372.

10531.

8947.

9855.

11955.

26206.

36290.

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39253.
20988.
25973.
39540.
43305.
11947.
14119.
17767.
38178.
42487.
43302.03.
43933.
page 4300
page 4301
43302.06.
75500.006.
75500.054.
Next.
MR. MANSFIELD: Your Honor, I'm handing the court a revised Court Exhibit 45. These are exhibits for Dr. McAllister. I have served a copy on plaintiffs. Plaintiffs had pointed out yesterday that there were some typographical errors. I've corrected those errors. Plaintiff has seen this, and I would ask that these documents --
THE COURT: Is there any objection to Court Exhibit 45 going into the record?
MR. WESTBROOK: No, your Honor. If counsel represents that he has that straightened out, no.
THE COURT: All right.
I'm handing to the reporter Court Exhibit 45, revised documents in connection with Dr. McAllister's testimony of January 2. The reporter will type these exhibit numbers into the record at this point.
MR. MANSFIELD: Thank you, your Honor.
(Court Exhibit 45):
DEM-013048.
DEM-013049.
DEM-013051.
DEM-013052.
page 4301
page 4302
DEM-013053.
DEM-013054.
DEM-013055.
DEM-013056.
DEM-013057.
DEM-013058.
DEM-013067.
DEM-013059.
DEM-013061.
DEM-013062.
DEM-013064.
DEM-013065.
GM-300076.
80500.
43987.
43139.
SA-300697.
SA-400533.
SA-400537.
SA-400362.
SA-400358.
GN-100709.

http://legacy.library.ucsf.edu/tid/ugm05a00/pdf
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SA-300597.
SA-300488.
Next.
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page 4303
MR. KRAUS: Your Honor, I would like to mark this list, your Honor, as the next Court Exhibit.
Your Honor, that's a list of documents relating to the issues of awareness of the general risks of smoking and the specific risks of synergy. Those are documents that underlay the Demonstrative Exhibits that we have prepared for Dr. Martin.
THE COURT: That's Court Exhibit 47.
MR. KRAUS: I have spoken at some length to plaintiffs' counsel. The only objections they had were to certain documents that they didn't think were on Dr. Martin's reliance lists. We then demonstrated to them that they were on Dr. Martin's reliance list, and I don't think there are any remaining objections. Mr. Westbrook can correct me if I'm wrong.
THE COURT: Court Exhibit 47. The court reporter will type into the record, at this point, Court Exhibit 47, the exhibits which may be used with Dr. Martin, and they are all admitted.
(Court Exhibit 47):
ARF-000280.
ARF-000300.
ARF-000313.
ARF-000317.
ARF-000321.
page 4303
page 4304
ARF-000325.
ARF-000332.
ARF-000371.
ARF-000394.
ARF-000440.
ARF-000453
ARF-000615
ARF-000717.
ARF-000796.
ARF-000781.
ARF-000802
ARF-000846.
ARF-000849.
ARF-000870.
ARF-000897.
ARF-000920.
ARF-000946.
ARF-000968.
ARF-001003.
ARF-001035.
ARF-001120.
ARF-001578.
ARF-001595.
ARF-001609.
ARF-001615.
page 4304
page 4305
ARF-001620.
ARF-001627.
ARF-001649.
ARF-001694.

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 5   ARF-001704.
 6   ARF-001711.
 7   ARF-001734.
 8   ARF-001766.
 9   ARF-001800.
10   ARF-001814.
11   ARF-001843.
12   ARF-001891.
13   ARF-000295.
14   ARF-000311.
15   ARF-000315.
16   ARF-000318.
17   ARF-000323.
18   ARF-000330.
19   ARF-000341.
20   ARF-000380.
21   ARF-000395.
22   ARF-000456.
23   ARF-000491
24   ARF-000818
25   ARF-000753.
page 4305
page 4306
 1   ARF-000770.
 2   ARF-000790.
 3   ARF-000822.
 4   ARF-000847.
 5   ARF-000850.
 6   ARF-000891.
 7   ARF-000914.
 8   ARF-000933.
 9   ARF-000950.
10   ARF-000993.
11   ARF-001021.
12   ARF-001086.
13   ARF-001531.
14   ARF-001588.
15   ARF-001598.
16   ARF-001610.
17   ARF-001616.
18   ARF-001622.
19   ARF-001635.
20   ARF-001654.
21   ARF-001699.
22   ARF-001707.
23   ARF-001713.
24   ARF-001745.
25   ARF-001780.
page 4306
page 4307
 1   ARF-001801.
 2   ARF-001815 .
 3   ARF-001889.
 4   ARF-001897.
 5   ARF-000296.
 6   ARF-000312.
 7   ARF-000316.
 8   ARF-000319.
 9   ARF-000324.
10   ARF-000331.
11   ARF-000368.
12   ARF-000381.
13   ARF-000397.

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Source: http://www.tobaccoindustrydocuments.ucsf.edu/docs/szgd0001

14 ARF-000483.
15 ARF-000567
16 ARF-000708
17 ARF-000768.
18 ARF-000772.
19 ARF-000798.
20 ARF-000841
21 ARF-000848.
22 ARF-000851.
23 ARF-000896.
24 ARF-000917.
25 ARF-000942.
page 4307
page 4308
1 ARF-000966.
2 ARF-000999.
3 ARF-001033.
4 ARF-001113.
5 ARF-001535.
6 ARF-001590.
7 ARF-001602.
8 ARF-001614.
9 ARF-001618.
10 ARF-001625.
11 ARF-001638.
12 ARF-001667.
13 ARF-001701.
14 ARF-001708.
15 ARF-001716.
16 ARF-001751.
17 ARF-001786.
18 ARF-001804.
19 ARF-001836.
20 ARF-001890.
21 ARF-001900.
22 ARF-002130.
23 ARF-002254.
24 ARF-002260.
25 ARF-002266.
page 4308
page 4309
1 ARF-002279.
2 ARF-002313.
3 ARF-002318.
4 ARF-002325.
5 ARF-002357.
6 ARF-002374.
7 ARF-002411.
8 ARF-002643.
9 AIW-000078.
10 AIW-000475.
11 AG-000186.
12 GA-300057.
13 GN-100060.
14 GN-100101.
15 GN-100225.
16 GN-100272.
17 GN-100498.
18 SA-300645.
19 WS-000548.
20 WS-002526.
21 WS-003330.
22 ARF-000958.

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23 ARF-001029.
24 ARF-001104.
25 GN-100226.
page 4309
page 4310
1 ARF-000958.
2 GN-100272.
3 GN-100518.
4 WS-000893.
5 GN-100068.
6 ARF-001024.
7 GZ-200259.
8 ARF-002133.
9 ARF-002255.
10 ARF-002262.
11 ARF-002267.
12 ARF-002292.
13 ARF-002314.
14 ARF-002321.
15 ARF-002330.
16 ARF-002362.
17 ARF-002407.
18 ARF-002640.
19 ARF-002644.
20 AIW-000169.
21 AIW-000525.
22 GA-000002.
23 GA-300088.
24 GN-100069.
25 GN-100110.
page 4310
page 4311
1 GN-100165.
2 GN-100438.
3 GN-100551.
4 WU-000518.
5 WS-000926.
6 WS-002662.
7 WS-003902.
8 GK-300359.
9 ARF-001073.
10 ARF-000951.
11 WS-003897.
12 ARF-001800.
13 ARF-001013.
14 AIW-003641.
15 AIW-000437.
16 GN-100482.
17 ARF-002548.
18 ARF-002136.
19 ARF-002257.
20 ARF-002263.
21 ARF-002278.
22 ARF-002303.
23 ARF-002316.
24 ARF-002323.
25 ARF-002335.
page 4311
page 4312
1 ARF-002370.
2 ARF-002408.
3 ARF-002641.
4 ARF-002645.

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AIW-000412.
AIW-003520.
GA-300054.
GA-300106.
GN-100090.
GN-100171.
GN-100226.
GN-100485.
GZ-000138.
WS-000507.
WS-000937.
WS-002704.
GL-000008.
ARF-000363.
ARF-001100.
GA-300036.
ARF-000841.
WU-000188.
SA-200393.
ARF-000708.
GN-100548.
page 4312
page 4313
WU-000046.
ARF-001636.
MR. WESTBROOK: Your Honor, we understand that those are going to be the exhibits, the underlying documents themselves.
MR. KRAUS: Correct.
THE COURT: Next, I spoke to Supreme Court Justice Kramer last night in connection with the Viscusi testimony. I think he wants Viscusi later today and as soon as we can release him. He'll be in touch with us. And it would be good to get on with Viscusi, so, if possible, we can meet the requirements of the State Supreme Court.
All right. Bring in the jury, please.
MR. WAGNER: Here is a copy of the Demonstrative Exhibits for Dr. Viscusi.
THE COURT: Are you offering these in evidence?
MR. WAGNER: Yes.
THE COURT: Okay. They are Viscusi 1 through 33, and they are admitted.
(So marked.)
(Jury present.)
THE COURT: Good morning, everybody.
THE JURY: Good morning.
W. K I P V I S C U S I, having been duly sworn,
was examined and testified as follows:
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page 4314
THE COURT: Give your name and spell it.
THE WITNESS: W. Kip Viscusi. The W stands for William.
DIRECT EXAMINATION
BY MR. WAGNER:
Q Good morning, Professor Viscusi.
A Good morning, Mr. Wagner.
Q Professor Viscusi, what is your profession?
A I'm an economist.
Q I'm going to ask you, during the course of the testimony -- I told you that was broken. Sometimes I'll stand back here, if we're not hearing you.
MR. WAGNER: Your Honor, may we explain that due to

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scheduling conflicts, we have had to interrupt Professor Martin's testimony?

THE COURT: Yes. Dr. Viscusi is needed elsewhere, so we have to get him off.

BY MR. WAGNER:

Q Professor Viscusi, you are here to testify today, to tell us about whether or not people believe that smoking is dangerous; correct?

A Yes, I am.

Q You are also here to tell us about whether or not warnings about lung cancer would motivate people to quit smoking; correct?

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A That's correct.

Q Before we begin getting into your testimony and credentials, I would like to lay one thing on the table, if we can. Professor Viscusi, do you think smoking is dangerous?

A Yes, I believe smoking is very dangerous.

Q Are you here to minimize the dangers of smoking?

A No, I am not. I accept the estimates by the Surgeon General, the National Cancer Institute, and the public-health community, and I'm not going to quarrel with the assessment in any way.

Q So, those are the estimates of the actual dangers of smoking that you are going to use for the purposes of your testimony; correct?

A That's correct.

Q Okay.

Now that we have that straight, let's talk about your credentials, so we get a sense of your training, experience and expertise. Have you prepared a couple of demonstratives that will take us through your academic and teaching experience?

A Yes.

MR. WAGNER: Your Honor, I'm going to display Viscusi 1 and 2. You may need to follow these along in your book. I need the jury to see them.

BY MR. WAGNER:

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Q Why don't you quickly tell us about your academic history. Why don't we begin with your academics credentials?

A The chart on the left indicates that all my education is at Harvard. I got a bachelor's degree in economics, summa cum laude, highest honors in economics, Phi Beta Kappa from Harvard.

I have a master's in economics and public policy, also from Harvard, a PhD in economics from Harvard, and for that, I got the award for the best PhD dissertation, and that thesis was on job safety, called "Employment hazards and investigation of market performance."

Q So, even your PhD dissertation had to do with measuring risks and risk awareness?

A That's right. I have been doing this for twenty-five years.

Q Then, after you received your PhD in economics, you went on to become a professor of economics, and you taught at a number of universities. Why don't you tell us, just very quickly, where you taught, and tell us how you progressed up the academic ladder from assistant professor to all the way up, holding an endowed chair.

A I started at Northwestern University in 1976 as an

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assistant professor of economics. In 1979, I became an associate professor of economics with tenure. What "tenure" means, essentially, they can't fire you.

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page 4317

I then went on leave to the government. After that, I went to Duke University as a full professor of economics. I returned to Chicago, both as a visiting professor at the University of Chicago, and as a full professor at Northwestern University. Then Duke brought me back as a chaired professor. They gave me what they call a university-wide chair, which means you have an international reputation in your field.

Five years ago, I went to Harvard Law School, where I became the first economist to hold an endowed chair there, which is a higher honor than being a full professor. That's where I am today.

Q You are not a lawyer and you have not gone to law school?

A No, I'm not.

Q Now, your experience is not limited to the classroom, is it?

A No, it's not.

Q And have you prepared a couple of charts that will help walk us through some of the non-classroom expertise that you have developed?

A I have.

MR. WAGNER: Your Honor, I'm going to display now Viscusi 3 and 4, which discuss Professor Viscusi's other professional activity outside of the classroom.

Q Professor Viscusi, we can see and read that you have

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worked with the National Bureau of Economic Research, the Brookings Institute and others. Why don't we pick one or two, maybe the National Science Foundation, and just one or two, and tell us how your experiences with these organizations relate to risk and risk awareness, which is what you are testifying about today.

A Well, for the National Science Foundation. I prepared an analysis and an evaluation of all the regulations of the Consumer Products Safety Commission. Which is the main agency in the federal government that protects consumers from safety hazards of products.

The last thing, for the American Law Institute, they did a report on accidents, and I was the one who drafted the chapter on hazard warnings.

Q Viscusi 4 tells us that you have been working with the United States Environmental Protection Agency for a number of years, studying risk and risk awareness. Why don't you tell us a little bit about that, and tell us a little bit with about the EPA Scientific Advisory Board and their panels?

A I have been working continuously for the EPA for the last seventeen or eighteen years, since 1983, doing studies on hazard warnings, how people respond to hazard warnings, how people respond to risk information out there, how people value risk. I have been, throughout the 1990s, I was a member of the EPA Science Advisory Board. This is the group that

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advises the agency -- the science group that advises the agency on scientific issues pertaining to environmental quality.

I served on the Clean Air Act Scientific Advisory

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Panel, the focus of which is to determine how good a job we're doing in meeting the goals of the Clean Air Act, in terms of cleaning up the air.

I also served, for the legal term limit, on the Environmental Economics Advisory Panel, which is the part of the Science Advisory Board, that deals with economics issues.

Q The Environmental Protection Agency, the federal government, they even hired you as a consultant on public-smoking restrictions?

A Yes, I was a consultant to the agency on their efforts to evaluate the benefits and costs of public-smoking restrictions.

Q Now, Professor Viscusi, you're here today testifying on behalf of some tobacco companies. Are those the only companies for whom you do risk and hazard-warning analysis?

A No, they are not.

Q Have you prepared a chart that will give us a flavor of other companies that you have done such work for?

A I have.

MR. WAGNER: Your Honor, I'm going to display Viscusi 5, and let's pick a couple of examples, maybe Dexatrim and Big

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lighters, things we might be familiar with?

A Dexatrim makes diet pills, and for them, I consulted on the design of the hazard warning for these diet pills, where the warnings pertained to risk such as the risk of the stroke that you could have if you had an adverse reaction to the diet pills. Bic, for them, they were the first cigarette-lighter company to consider child-resistant devices on cigarette lighters, and they wanted to know how the public could respond to them. Could people operate the lighters? Would they be safe for children? Along with my collaborator, I ran the study to determine how people would handle the lighters, would they, in fact, be safe, would children be able to operate the lighter, and would they promote safety. We developed the protocol that was adopted by the Consumer Products Safety Commission to evaluate other lighters by other companies.

Q Now, we have discussed your academic and your teaching credentials, some of the other work you have done for research organizations as well as companies. I would like to now focus on a slightly different aspect, and see if you can take us through particular things you have done over time to study risk awareness and warnings. Have you prepared a couple of charts to help us understand that?

A I have.

BY MR. WAGNER: Your Honor, first, I'm going to display Viscusi 6.

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BY MR. WAGNER:

Q When did you first begin working on risk and risk awareness and hazard warnings?

A I first began working on risk-type issues in 1973.

Q What did you look at in 1973?

A I coauthored a book on the adverse environmental consequences of dams. And this was a Ralph Nader study-group report.

Q That's where you got your information, by working with Ralph Nader's group?

A That is correct.

Q A few years later, you went to work for President Carter's Council on Wage and Price Stability, and spent a

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couple of years there. Why don't you give us an explanation of what you were doing there?
A Twenty years ago, inflation was a much bigger deal than it is today, and the government was concerned about decreasing inflation. So, President Carter had wage and price guidelines, and I was the number two person in the agency that administered those guidelines. And we were also responsible for the oversight for the White House of all new major federal regulations, including health, safety, environmental regulations.
Q And in 1980, there was a change in administration. By 1982, Carter's team had retired, I suppose involuntarily,
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President Reagan and Vice President Bush were in office. Why don't you explain what happened then? They brought you back in to work with risk and risk awareness?
A Yes, although I had officially left town. The Occupational Health and Safety Administration had a proposal for a regulation that would require the labeling of hazardous chemicals in all workplaces. This is the first time this had been done. And for a regulation to pass, to get through, they had to show that the benefits of the regulation were greater than the costs. They thought they were, and they sent the regulation over to the Office of Management and Budget.
The Office of Management and Budget said, no, the costs are greater than the benefits. The Occupational Safety and Health Administration appealed this to then-Vice President Bush, who said, gee, these are technical issues, let's get somebody in here to solve it. So, I came in to settle the dispute between the two agencies, and I was approved both by the Secretary of Labor as well as of the Office of Management and Budget.
I did an analysis of the hazard warnings. I concluded the benefits were greater than the costs, and it should be issued. The day after my report reached the Reagan White House, the regulation was issued.
Q What type of hazard warnings was the proposed regulation? What was it designed to achieve?
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A These were broadly-based warnings for all chemicals, not just particular chemicals. And it was designed to inform workers of the risks to which they were being exposed, and it also included something called material safety data sheets, which are lists of the chemicals in the workplace, as well as, if you are exposed, what you should do in terms of an antidote or some sort of response.
Q You recommended that the labeling law be enacted; right?
A Yes, I did.
Q Would the enactment of this law have imposed a cost on industry?
A It was very costly, which is why there was a such a big debate about it. This ended up being the most costly job safety regulation in that decade.
Q We also show that you were working for the EPA again from 1983 to 2000. Why don't you give us just a short explanation of the research that you have done for the Environmental Protection Agency, for the federal government, on the risk levels and hazard warnings?
A In the 1980s, most of my research focused on, stressed various kinds of hazard warnings for chemicals and pesticides, to develop guidelines for the government to figure out how the

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design warnings that will be effective.
In the 1990s, my efforts turned to other kinds of information issues, such as, what happens when there is a
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variety of conflicting scientific studies on particular risks and the government is trying to communicate what the risks are, how do people react to situations like that? I'm still doing field surveys for the EPA. I have been in the field running surveys for them for almost seventeen years. Right now, we're running a national survey. This goes to 2001, not 2000. We're running a national survey on how people value risks to water quality.
Q Have you published the results of your work?
A Yes, in peer-reviewed journals and books.
Q Okay. Professor Viscusi, in your work analyzing risks and communicating about different hazards, have you had occasion to work with survey data?
A Yes, I have.
Q Is survey data important to the kind of work you do?
A Yes, survey data essentially comprises the building blocks for analyses.
Q Given that, have you prepared a chart that will help us understand your expertise in designing, analyzing and running surveys?
A Yes.
Q I'm going to display Viscusi 7. When did you first begin analyzing survey data professionally and academically?
A We started that in 1976, which marks the completion of my doctoral thesis on job safety, where I analyzed lots of survey
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data pertaining to employment patterns.
Q And you have been doing that consistently right up through the present on this chart I managed to get, to 2001?
A Right. In fact, at Harvard Law School, I'm the director of the study on empirical study.
Q How did you move from analyzing surveys in 1981 to actually designing and running surveys?
A This is the first survey that I actually designed, and this focused on how workers responded to chemical labels or hazard warnings for dangerous chemicals.
Q Then, we also show again you have been designing and running surveys for the United States Environmental Protection Agency from 1983 right up through the current; is that correct?
A Yes, I have actually directed these efforts. So, I have been the project director, project manager, and I have been the one in charge of the design and overseeing all the administration of all these surveys.
Q Okay. Now, we have heard a lot about surveys and survey data in this case. And, based upon your training and experience designing and running surveys for over twenty years, let me ask you a few questions about what makes a proper survey, and ask you whether or not you prepared a chart that will help us understand what makes a good survey?
A I have.
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MR. WAGNER: Your Honor, I am going to put up Viscusi 9. We have some principles about what makes a proper survey
BY MR. WAGNER:
Q Your first point is, "Questions must be worded properly."

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What you are getting at here?
A People have to be able to understand the question. If you tell them the survey question, they must be able to understand it, and they must be able to answer them correctly.

Typically, we want to know if there's a right or wrong answer, so we can compare it to something else, to figure out how people are doing.

Q What do you mean by the "Order of the questions should not bias the results"?

A Ideally, you do not want a survey in which some of the questions that -- appear early in the survey, because they give people clues or hints as to what's going on with the survey, alter the response later on. So, you don't want tainted results.

Q That would be by the order of the questions. What about the wording of the questions themselves?

A You don't want the wording to be rigged to get you the answer you want. You want the wording to be a fair and a honest reflection of what you are trying to get at in the question.

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Q Your last bullet point is the "Questions must permit responses that are meaningful for statistical analysis." What do you mean by that?

A Well, when I run survey questions, it's to get data that I can actually analyze. And typically, you want questions that give you quantitative answers, as opposed to qualitative answers.

So, we would like to know what level people's risks beliefs are regarding smoking, because I can do something with an objective measure, but if you simply ask them, is smoking very risky, somewhat risky, I don't really know what "very risky" or "somewhat risky" means to people.

Q Number 2, you say "The results must be statistically significant." What does that mean?

A If you're running a survey to test a hypothesis, which is what you are doing, you typically want a large-enough sample size to pin down whatever effect you are trying to get at to get a statistically significant sample.

Q That would mean it would have predictive power?

A That's right.

Q Why is "statistically significant" important?

A It's important, because unless you have enough data to be able to analyze and test your hypotheses, then it's not appropriate to draw a conclusion. You want enough data to be able to get a firm handle on whatever you are trying to

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analyze.

Q Now, you say, in point number 3, "Must be able to replicate the results." Replication, why is that important, and what does it mean?

A When I run surveys, it should be the kind of thing where, if I hand the survey to you and you went out to run the survey, you would get the same answers. Because if it's only the answers that I get, then there's something probably that's wrong, in that it depended on how I administered the survey.

So, it should be where we could pass my survey on to other people, and they could replicate it and get the same kinds of results.

Q Your final point is, here, is that "The results should be

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subjected to peer review." Why is that?
A This is the standard test for scientific work. You want other scientists in the field to evaluate the work, so they can scrutinize the survey, evaluate the survey results, and they can also evaluate your analysis of the survey results, to see if it is sound.
Q Now, we've heard in this trial about peer review a number of times. To help us understand the significance of peer review, I want you to spend a couple of minutes helping to explain that to us. Answer this: Does "peer review" have a well-defined meaning?
A Yes, it's very well defined. What "peer review" means is

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that professors are the ones, your scientific peers, are the ones who handle the editorial decisions and control the operations of the journals.

Law reviews are not peer-reviewed. Newspaper articles are not peer-reviewed. You have journalists reviewing those things. In the case of law reviews, it's students. In peer-review journals in economics, you have peers doing the reviews.

Q Is it easy to get an article published in a peer-reviewed journal?
A No, it's actually very difficult, because you have to go through a lot of stages, of sending the paper out for review, getting it reviewed by the professors, getting people to sign off on it. In fact, there are many economics journals where fewer than one in twenty articles submitted to the journal gets published.
Q Books can be peer-reviewed, as well?
A They are, in the case of all my university press books. They are peer-reviewed.
Q Give us a sense, very quickly, if you can, about the process of getting a book through the peer-review process?
A In the case of Harvard University Press, for example, you send it in, you send your book in. The social science editor looks at it, has to decide if it looks like a pretty good book.

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If it is, they will then send it out to professors to review it. The professors have to say, yes, this is an important and original contribution. If they say it's not, the book goes in the garbage can, so it doesn't get published.

If you then get the clearing, the go-ahead, and you can successfully revise the book in response to those comments, -- sometimes they send it back to the professors -- but in any event, even after it's given that okay, it then has to go to the university press board, which consists of professors from all around the university, who have to sign off on it and say, it's not only an important contribution to economics, it's really good over all.
Q Professor Viscusi, have you published any articles in peer-reviewed journals?
A Yes, I have 200 articles in peer-reviewed journals.
Q You've published a number of peer-reviewed books; correct?
A I have.
Q We have displayed a few over here today. I'm holding in my hand now two particulars ones. One is entitled "Smoking: Making the risky decision," and another one is

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entitled "Rational risk policy." Are these two of your peer-reviewed books?
A Yes. The first book deals entirely with smoking, and the
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second book has a full chapter on smoking.
Q We've displayed some other books here, as well. We have displayed a book called "Learning about risk." "Informational approaches to regulation," "Fatal trade-offs," and "Calculating risks." Why don't you give us a second or two about how each of these books deals with risks or risk awareness?
A Well, "Learning about risk" and "Informational approaches to regulation" are based on studies I did for the federal government on hazard warnings. These are books that deal exclusively with hazard warnings and how people learn about risk. "Fatal trade-offs" deals with risk-regulation policies, including how people process risk information. And "Calculating risks" is a book on hazardous-waste sites.
And all the books only is that table were published by university presses: Oxford University, Harvard University, and MIT Press, which are three of the top presses.
Q Have your books won any awards?
A Yes, I have won four Book of the Year awards from the American Risk and Insurance Association. And my book on job safety won the Harvard David Wells prize.
Q You talked about the award, I think it's the Culp award for the insurance risk association. What does that mean?
A The American Risk and Insurance Association is the leading academic association of the professors in the United
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States who study risk and insurance, and they get together every year to pick what they think is the most outstanding book in terms of an original contribution to the risk and insurance literature. And I have won that award four times in the last nine years.
Q Professor Viscusi, is there a particular subfield within the discipline of economics that is of particular interest to you?
A Yes. My main focus is on risk and uncertainty, particularly health and safety risks.
Q What do you mean by "Risk and uncertainty"?
A "Risk" often deals with situations where you know for sure the probability that something is going to happen. So, if you flip a coin, it's a 50/50 chance it will be heads.
"Uncertainty" deals a situation where you don't know for sure the answer. When the Yankees were playing the Mets, I thought there was a fifty-five percent chance that the Yankees would win. I wasn't sure there was a fifty-five percent chance.
Q How about giving us an example that involves health and safety?
A Health and safety risks, often we don't know about what the risks are that we face. So, in the case of cell phones, for example, which I'm going to end up talking about later, there has been a lot of debate in the press lately saying that
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cell phones may be dangerous. That's a situation of uncertainty. So, that would be a situation of ambiguous risks.
Q And just generally, in general, how does the study of

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risk and uncertainty fit within the discipline of economics?
A Risk and uncertainty has been a focal point of the economics literature for centuries. Many people are familiar with how economists have worried about financial risks, risks of the stock market. But also, economists have worried about health and safety risks and how workers get paid extra for dangerous jobs, and whether workers can understand the risks of their jobs. This goes back to Adam Smith in the 1750s.
Q You have written articles and books on this subject?
A In fact, most of my articles and books deal with health and safety issues.
Q You teach courses in this field?
A Yes, I do.
Q Do you teach those only to students, or who else has been in the courses you've taught?
A I have thought students, government officials, judges, business people, lawyers.
Q As part of your work of risk and uncertainty, do you also evaluate warnings and whether or not they are needed, whether they are effective, that sort of thing?
A That's correct.

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Q How long have you been studying warnings as part of your scholarly work?
A Hazard warnings per se, as opposed to simply learning about risk and information, I would date to 1981.
Q These books, I think you mentioned "Informational approaches to regulation" and "Learning about risk," these contain writings about your studies of risk; correct, and warnings?
A And hazard warnings, yes.
Q It's the federal government that asked you to do this research?
A They funded the research from start to finish.
Q They paid for it?
A They did.
Q Professor Viscusi, have you ever concluded, in your examination of any situation, that warnings are, in fact, required in particular instances?
A Yes, I have.
Q Have you also conducted tests and experiments to determine what types of language is effective when communicating warnings?
A Yes. A great deal of the emphasis of the work for the Environmental Protection Agency has been on appropriate warning language, format of warnings, print size, generally what you put on the label, where you put it on the label, all

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these kind of issues.
Q You have been doing this work for twenty-plus years, Professor Viscusi. Is this the first time you have testified as an expert witness?
A No, it's not.
Q In how many trials, give us a ballpark, have you testified?
A Somewhere between ten and twenty trials.
Q Were those all smoking cases?
A No, they were not.
Q How many times have you testified in a tobacco case?
A One time previously to today.
Q And you're going to testify at another, shortly after

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you're finished here. That's why we're juggling everyone's schedule?
A Yes.
Q In these smoking cases, you have testified for the defense; right, for the tobacco companies?
A That's right.
Q You have also testified at depositions a number of times on behalf of the tobacco companies, as well; right?
A That's correct.
Q Have you testified in other types of cases about warnings?
A I have.
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Q Have you testified as an expert about risk perceptions and warnings on behalf of plaintiffs in other cases?
A Yes, several times.
Q Did you testify in those cases that warnings should have been given regarding certain products?
A Yes, I did.
Q Give us an example.
A One example was, a wife went into a sporting goods store and bought a hunting vest for her husband, a life vest, thinking is that would be good for water skiing. She was told by the salesperson in the sport goods store, yes, it would be good for water skiing. There was a tag on it saying it would be good for all purposes, all sporting purposes. He used it water skiing, but the shape of the design is that there would be a scooping effect with the water, and it ended up paralyzing him when he used it for water skiing.
So, I testified that she should not have been misled, and that the warning, actually, the label on the product, misled her as well as the salesperson to think that this would be appropriate for water skiing.
Q Have you ever served as an expert for the United States Department of Justice?
A Yes, I have. For example, when I lived in Chicago, the U.S. Department of Justice was suing the City of Cicero, which had never had a black employee in the history of the city.
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And I prepared the analysis for that lawsuit, which they used to fight this discriminatory effort.
Q Have you ever testified before Congress in particular about warnings?
A Yes, I have. I testified before the Senate Committee on Commerce, Science and Transportation, on alcoholic-beverage warnings, which are the warnings now on beer bottles today.
MR. WAGNER: Your Honor, at this point, we would offer Professor Viscusi as an expert witness to offer opinions on risks, perceptions of risk, and hazard-warning communications.
THE COURT: He may give his opinion.
BY MR. WAGNER:
Q Professor, there are a couple of allegations in this case that I want to put in the front of your mind, so we can get an overview of your opinions in this case. One of the allegations is that the defendant tobacco companies have distorted the body of public information regarding smoking and lung cancer or smoking and disease, which caused members of the public to underestimate the risk, -- this include asbestos workers -- causing them to smoke? Do you understand that's an allegation in the case?

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A Yes.
Q And another allegation that I would like you to keep in the front of your mind is that defendants ought to have warned
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people, including asbestos workers, of the synergistic risk of being exposed to asbestos and smoking. Do you understand that allegation?
A Yes.
Q Do you have opinions concerning those allegations?
A Yes, I do.
Q And why don't you tell us -- I will display Viscusi 12, which is an overview of those opinions. Why don't you tell us what your opinions are?
A The first opinion is that people in fact overassess or overperceive the risk of smoking. Even though smoking is really dangerous, they actually believe that smoking is more dangerous than it actually is.
Q That's using the public-health community's and the Surgeon General's data for how dangerous it really is?
A That's right. I take their data at face valuation, and the question is, people's risk beliefs above that or below that. And the answer is that they are above that.
Q Your second opinion?
A The second opinion is, is that an additional lung-cancer warning that would be tied to synergy would not cause people to quit smoking.
Q Okay. We're going to leave that up, so that we'll be able to follow along in the testimony.
In your first opinion, you talk about people
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overperceiving the risk. You talk about risk perception. Why is risk perception important?
A Risk perception is important, because people face risks all the time, and you have to have some judgment about the risk, in order to enable you to make a sound decision. So, we want to know, are people thinking sensibly about the risk when they are making risky decisions?
Q Can you give us a couple of everyday examples about taking risks?
A Well, the ones we've studied are hazardous-chemical products. And what we've wanted to know is, whether the labels and the information out there have communicated successfully to people the precautions they should take with the product, as well as the inherent risks associated with the product.
So, for example, there might be a risk of the child poisoning, and you should keep the product out of the risk of children. There might be a risk of a skin burn, and you should wear rubber gloves while using the product.
Q In order to make a choice about whether or not to engage in one activity or do something, what do people need to do make a choice?
A They need information on the risks associated with that activity, as opposed to not engaging in that activity.
Q Where can this information come from, how can people
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learn about risks?
A You can get risk information from a lot of sources. Some of it is public knowledge, some of it you can observe. You can sometimes see whether something is dangerous or not.

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Sometimes you learn about things in public-health courses. You can read about it. There could be hazard warnings, there could be training programs. Driving is very risky, and you learn about that through driver-education programs and the like. So, there are lots of different ways you can get information.

Q There's a basic principle that we have heard about in this case, and that is, that information increases knowledge and can increase people's awareness of risks. Do you accept that general principle?

A Yes.

Q Is there a limit to that idea, or is it useful and beneficial to keep repeating information over and over and over again?

A There is a limit. In fact, my research, as well as the other research in the literature, shows that once people have the message, additional information, additional reminders, don't do any good.

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CONTINUED DIRECT EXAMINATION

BY MR. WAGNER:

Q What are the two things we need to know in order to determine whether more information about risk is needed?

A We need to know how good people's risk's beliefs are relative to the true risks. We need to know what is the actual risk, the scientific estimate of the risk and we need to know, second, what are people's risk beliefs. We want to compare the two to see whether risk beliefs are in line with the scientific estimates.

Q Let's take those one by one. Did you prepare a chart to help us understand how to measure an actual risk, in particular the risk for cancer?

A I have.

MR. WAGNER: Your Honor, I'm going to display Viscusi Exhibit 15, risk perception. How is an actual risk measured? This is taken from an example of a study, you actually did it, correct?

A That's correct.

Q Why don't you explain to us what happened, how you even measured an actual risk?

A The example is from a metal plating facility on Long Island, the Gensalli Plating Company (ph) coats steel and other metals with different chemicals, used to be they would take the waste products from this, dump it in the sewer,

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definitely dangerous to the environment. More recently they took the waste, dumped it in the backyard which is still not that good. It creates a hazardous waste site. What the Environmental Protection Agency wanted to know how dangerous this is. So, they measured the chemicals. They gave us the information about the chemical concentrations. We determined from that what the cancer risk would be. We looked at the surrounding populations, how close people were to the site, how they could come in contact with the site and for that site we estimated what would be the expected number of cancer cases that would arise from this dangerous chemical.

Q You did this work for the Federal Government, right?

A Yes.

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Q When you calculated the risk, how would you express that risk?
A It would be expressed at some kind of probability. It would be something like everybody around the site had one chance in 10,000 of getting cancer.
Q Is that a big risk?
A It is for cancer, yes.
Q Did the Federal Government order a cleanup?
A They did.
Q Have you done a similar analysis for the Federal Government at other sites?
A I've done analysis for about 200 hazardous waste sites

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for the Federal Government, analyzed the risk exposures, cancer risks that face people from these sites.
Q For some risk then we can get a pretty accurate measure of what the actual risk is?
A Yes.
Q Let's go to the second step. You said we need to know the actual risk and we need to know what people believe, how dangerous they think it is, right?
A That's right.
Q Have you prepared a chart that would help us understand how you would go about measuring people's belief as to the risk?
A I have.
MR. WAGNER: I'm now displaying Viscusi 16 which takes us through how perceived risk is measured.
Q We have an illustration, one of the peer review articles you wrote. Tell us about the study you were trying to do and how you were measuring perceived risk.
A This was a study we did on job safety, the relationship of people's beliefs regarding the riskiness of their jobs, how much money they were paid, how they felt about their job. The scale here indicates where they should rate the risk of their job. You could see to the left of the scale would be no risk at all, then a little further along there's the average of all United States manufacturing workers. That would be of one

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quantitative anchor. Since we ran the scale in the State of Oregon, we also indicated what's the risk in a logging camp. There are a lot of logging camps in Oregon, not Brooklyn, that would be a meaningful way to get a handle what the risk is. So, using this quantitative scale, they would mark on the scale the riskiness of what their job would be. We would use that to figure out how risky their job was.
Q If I put an X there?
A That's right.
Q You told us you designed a quantitative scale to have workers rate their beliefs about the risk. Explain to us what you mean by quantitative scale?
A Quantitative means we can attach a number to it, actually run with it. For example, you put the X there. If you put the X halfway over, let's say right there (indicating), if I put the X there, we could conclude my job was half as risky as your job because it's a quantitative scale.
Q Or that you believed your job was?
A That's right, because it's only personal risk beliefs.
Q To put a final point on this, were workers who took your survey able to respond meaningfully to a quantitative scale?
A Yes, they did respond meaningfully. We tested that in a

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variety of surveys, this and others.
Q I want to focus on a word we're using, "scale." How is scale important when we want to compare perceived to actual
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risks?
A We're comparing perceived and actual risks to figure out if people are getting the message. We want to compare apples to apples. If we have a risk number, say, for example, the risk is 5 out of 100 or 10 out of 100, then we also want to know are people's risk beliefs, how are they in terms of 5 out of 100, 10 out of 100 being above or below that. We don't simply want to ask them a squishy question, is your job dangerous; we don't know what that means.
Q This is a case, though, about smoking related diseases like lung cancer. We've discussed how we can measure actual risk and how we can measure how dangerous people believe the risk to be. Can we apply those risks to smoking and lung cancer?
A Yes.
Q Have you prepared a chart that would help us make that transition?
A Yes.
MR. WAGNER: I'll display Viscusi 17.
Q Is this the chart you prepared?
A Yes.
Q You begin on the left-hand side of the illustration here with a quantitative analysis. That's what you've been discussing with us, correct?
A That's correct.
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Q Why don't you explain what you filled in here, what the quantitative analysis looks like so we know how it applies to smoking and lung cancer?
A With quantitative analysis, you want to determine the level of the perceived risk on quantitative scale such as the ones we used for job safety, compare that quantitative measure of the risk with the scientific estimate to determine if the perceived risk is sufficiently high enough to show that people got the message.
Q This is something that economists do?
A Yes.
Q We've heard about a different way of looking at people's beliefs in this case, Professor Hanson came and testified about a concept called behavioralism. Are you familiar with Professor Hanson with that theory?
A I know Professor Hanson who is a colleague of mine. I know he's never done any original empirical work. I know the articles he's read. I read many of those articles myself.
Q How does the behavioralism approach differ from the approach we've been discussing, the quantitative analysis?
THE COURT: Excuse me for a moment. Would you take down the chart on the left?
MR. WAGNER: Yes, your Honor:
A The behavioral approach, instead of asking people what the risk is on a quantitative scale, they would ask people are
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cigarettes or smoking cigarettes, is that somewhat risky, very risky and you can't compare that to the Surgeon General's estimates because people say it's very risky, we don't even know what people mean when they say very risky; it could be

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one in 1000, one in 10, one in 2, one in 10,000.
Another problem is that different people mean different things when they say something is risky. I've done a study of job safety behavior, you ask people is your job dangerous. What we find is that white collar workers for any given real level of risk are more likely to say their job is dangerous than if you put a blue collar worker on that same level of risk because blue collar workers are more accustomed to facing risks.
Q Let's walk through, begin to walk through some of the data. We have point one, we need to know the actual risk of lung cancer. You said here for tobacco it's 6-13 out of 100. Tell us what that means and where the data comes from?
A Using estimates from the Surgeon General and the National Cancer Institute taking those estimates at face value, I calculated the risk of lung cancer is that 6 to 13 smokers out of 100 would die from lung cancer because they smoked.
Q A commonly used and accepted number is how many out of 100 in that range?
A Often people say 10.
Q 10 out of 100 smokers will die from lung cancer because

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they smoke?
A Which is right in the middle of my range.
Q Now you've got another line that says 20 out of 100 for tobacco and asbestos. Tell us what that is from, tell us what that is, where it comes from.
A The 20s out of 100 number comes from Dr. Selikoff who is the principal researcher in this field. I took his number at face value. He gave this number on Meet the Press, I've actually seen the show.
Q We've heard in this case all sorts of numbers, heard about 92 times greater risk, 52 times, 50 times greater risk. How do we understand 20 out of 100 with all those other numbers?
A Those other numbers are relative risks; 50, that number is the risk relative to a non-smoking, non-exposed to asbestos person. What this number is, this is your probability which is somewhat different, your probability. This is your actual chance of getting lung cancer and dying from it.
Q We said that this 20 out of 100 came from a Meet the Press interview. I would like to play that for a moment, have you confirm for us this is where you got the data?
THE COURT: What exhibit?
MR. WAGNER: That's his code, 3.5.
THE COURT: What number is it on my code?
MR. WAGNER: I'll get it. I apologize. I didn't

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mark it down in my book.
(Videotape played.)
Q Is that the Meet the Press edition you are referring to?
A Yes, 1 out of 5.
Q You're aware Dr. Selikoff has given the same information in other forums, speeches before the union, testimony, etcetera?
A Yes.
Q Those were for Dr. Selikoff's insulators, the people he was working with, correct?
A That's right.
Q Those were the people who were exposed to lots and lots and lots of asbestos, correct?

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A That's correct.
Q You're aware Dr. Selikoff reported for his insulators there was very high smoking rates, correct?
A Yes.
Q You're accepting Dr. Selikoff's figures at face value, not quarreling with them in any way, are you?
A No.
Q Now we know what the actual risk is for lung cancer. What's the next step?
A The next step is to compare the actual risk and perceived risk to see what the difference is. So, how do the risk beliefs people have compare with the scientific risk

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estimates?
Q To make this comparison, how is that done?
A You have to have everything measured on the same scale so that we can make a meaningful comparison.
Q How do we find out whether or not people are believing smoking is just or more dangerous than it is?
A To get risk beliefs on the same scale, you need a properly designed survey that gives you the risk information in a form that you can compare with the scientific estimates.
Q Have such surveys been done?
A They have.
Q We're going to go through these in a series. Have you prepared a series of charts that will help take us through the survey data that you have collected and that you have analyzed?
A Yes.
MR. WAGNER: Your Honor, I'm going to display first Viscusi Exhibit 18.
Q Let's begin at the beginning. Viscusi 18, smoking risks, what do people believe? It talks about a survey of smoking conducted in 1985. Why don't you tell us about this survey?
A First how I got the survey. This was a survey run by tobacco law firms in 1985 in connection with litigation.
Q Who actually ran the survey?
A Audit & Survey, which is a survey research firm located

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in New York. They have an international reputation.
Q They're a good firm?
A Good firm.
Q Well recognized. It was prepared at the request of law firms, correct?
A Yes.
Q Law firms representing the tobacco companies?
A That's right.
Q How did you come across the data?
A In 1987 I was advising one of the law firms on risk issues, how do people think about risk. They just generally want to know everything that was known in the literature about risk, how consumers made decisions involving risk. As part of this effort they were collecting boxes of articles dealing with risk perception and when going through those boxes I came across this survey that they had run which caught my interest because I had never seen such a good survey about smoking risks anywhere.
Q You testified when it comes to the actual risk data you're accepting the public health communities and Surgeon General and Dr. Selikoff's data, their conclusions at face value. Did you do the same thing with the Audit & Survey

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data?
A No.
Q What did you do?
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A The first thing you do with the surveys, you read the text, figure out if the survey itself looks good. The second thing I did, I asked for the data so I could look at the raw data, not just relying on the report on the data by the survey research firm, but to see each actual response for each respondent to the survey.
Q Did you run statistical tests on the data?
A I did. I examined the data. I did my own independent statistical analysis and concluded it was a good data set and I've used that data as part of my research. I've also done more work since then to verify the survey.
Q The survey was in the files of a law firm representing one of the tobacco companies. Did they restrict your analysis of this data in any way?
A No, I had complete freedom to use the survey for any academic purpose. There was no editorial control of any kind over anything I did.
Q Did the fact that the law firm representing a tobacco company paid for the survey bias the data in any way?
A No. Two things. First, when you're called by the survey research firm, they don't identify the survey as being a tobacco law firm survey, it's a survey being run by Audit & Survey, you don't know who is funding it. The questions themselves are not biased in any way. You can read the survey text and it's just not rigged or biased in any particular
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direction.
Q How did this survey get at people's beliefs as to the dangers of smoking?
A The key question in the survey was the one about lung cancer. The actual text reads among 100 smokers, how many of them do you think will get lung cancer because they smoke?
Q Because they smoke?
A Because they smoke.
Q How many people were surveyed, ballpark?
A Just over 3100.
Q Is this designed to be a sample of the entire nation?
A It was a national sample and done very well.
Q Tell us what the results were.
A Overall, people thought 43 out of 100 smokers would get lung cancer because they smoke.
Q Is that greater than or less than the actual risk even if we use Dr. Selikoff's 20 percent as the point of comparison?
A Even if you use 20 percent, the risk perceptions out there on average are more than double Dr. Selikoff's estimates and way higher than the Surgeon General's estimates for lung cancer excluding asbestos.
Q 43 out of 100, does that mean everybody in the survey said 43 out of 100 in the survey?
A No, average across all people.
THE COURT: Are those smokers or random selection of
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the population without regard to smoking?
THE WITNESS: Without regard to smoking. Smokers, their responses are roughly 39 out of 100.
Q By 1985, Professor Viscusi, this survey was taken, the

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tobacco companies have been advertising their products and issuing public statements about whether tobacco causes diseases, been doing that for decades. The Plaintiffs allege as we talked about, the Defendants distorted the body of public knowledge through those statements and through those ads. Does this data bear on that allegation?
A Yes, it does.
Q What is the data showing?
A We want to see the bottom line. When all the dust settles, after all the public statements are in, after everybody has processed all the public debate, information regarding smoking, where do risk beliefs end up? What these data show are that risk beliefs are higher than the actual risks as estimated by the Surgeon General and Dr. Selikoff.
Q Even with all the advertising and statements?
A Even with all those statements.
THE COURT: Might I follow up that question? Again, I caution the jury my questions have no significance.
What about the risk of smokers that they will get cancer? Is that any different from the risk of smokers generally about how the general population will fare?

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THE WITNESS: The question would be -- I've asked the question differently.
THE COURT: No, I'm not asking you why you ask it. I'm asking you whether this survey asks the question of smokers?
THE WITNESS: It doesn't --
THE COURT: What is your perception of your risk of getting cancer?
THE WITNESS: No, it doesn't. I think we'll discuss later how I believe these results still pertain to that.
THE COURT: Thank you.
Q Since the 1985 survey came out the way it did, since you had your analysis of that survey in hand, you've done that, did the tobacco companies retain you to testify for them?
A No, they didn't. They said they didn't need me.
Q Did that end your study of smokers' risk perceptions and beliefs?
A No, I'm interested in this because I do health and safety risks. I regard cigarette smoking as the largest disk.
Q You wanted to study it further?
A Yes.
Q In your field?
A Yes.
Q Did you tell your tobacco companies you're continuing to study this?

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A No.
Q Did they finance it?
A They gave me no funds for this, didn't know I was continuing to do the surveys myself.
Q You did it totally on your own?
A That's correct.
Q What did you do?
A I ran my own survey. The first thing I did was to take their questions, their exact question, then I was at Duke University, ran it on a sample there, just over 50 people, got about the same answer to their questions, I said okay, their question is okay. Let's look at different questions. I looked at different kinds of questions to see whether their

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14 results would hold up with different wordings of the question.
15 Q Let me slow you down. We did then a series of surveys,
16 analyzed surveys in the ensuing years. I want to see if we
17 can get through this in a way that's relatively efficient. In
18 1991 you ran your own survey, correct?
19 A That's right.
20 Q You were checking the results of the 1985 survey to make
21 sure it was valid?
22 A Yes.
23 Q You did a number of things to change the questions from
24 1985 to 1991 in order to test the validity?
25 A Yes.
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1 Q We have a number of bullet points here. Let's talk about
2 each one. The 1985 survey we said asked people out of 100
3 smokers how many do you think will get lung cancer because
4 they smoke? You said you used a different denominator. What
5 does that mean?
6 A Rather than asking how many of 100 smokers, I asked how
7 many out of a thousand or how many out of the two million
8 smokers in North Carolina. People answered 10 percent, 20
9 percent. So, 30 percent, 40 percent, I should say. It told
10 us people like thinking in terms of risks out of 100 so that
11 the hundred seemed to be the natural way to ask the question.
12 Q Natural way for people to think?
13 A Yes.
14 Q You said you used a different consequence. What does
15 that mean?
16 A The first variation, the main variation we did there, in
17 1985 the survey said how many smokers will get lung cancer.
18 The 1991 I asked how many smokers will die from lung cancer.
19 Q Why did you make that change?
20 A People think they'll get lung cancer, survive, it's
21 different than getting lung cancer and dying. I wanted to
22 know whether people understood lung cancer was really a dread
23 disease.
24 Q It says you also asked a question about different
25 diseases. What does that mean?
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1 A Let's say we've already gotten a survey, a question about
2 lung cancer, what about everything else? Did they correctly
3 perceive the total risk from smoking? That's the key thing
4 driving their decisions. I asked out of 100 smokers, how many
5 of them do you think will die from lung cancer, heart disease,
6 throat cancer and other ailments due to their smoking?
7 Q Finally you say you asked a different type of probability
8 question altogether. What does that mean?
9 A It may be that people understand they will die but they
10 don't think they'll lose much life. I asked a question to get
11 good life expectancy loss. I told them a normal male or
12 female at age 21 will live to a certain age. I gave them the
13 figures from the statistical abstract, how long do you think a
14 smoker will live to get a sense of how long from their life do
15 they think the smoker will lose because of their smoking.
16 Q Did the results of the 1991 study confirm the 1985
17 results?
18 A Yes, I got 38 percent as opposed to 43 percent which is
19 pretty good, particularly since the survey was administered in
20 the heart of tobacco country, North Carolina.
21 Q What significance would that have?
22 A I would expect these people, in fact, tobacco warehouses

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at that time in Durham, North Carolina that had lower risk beliefs.
THE COURT: Excuse me, I want to ask about this
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first chart. This is number?
MR. WAGNER: Viscusi 19.
THE COURT: On that 38 percent figure, did you break it down at all by blue collar, white collar, occupation, except as you would have some skewing towards tobacco warehouse workers?
A I could break that down for smokers, nonsmokers but it's not until 1998 survey, 1998 I finally did.
THE COURT: This survey doesn't have that fine grain?
THE WITNESS: No.
Q Surveys again in 1997 and 1998. Why were additional surveys run in general?
A '91 was on North Carolina sample. When there's a series of lawsuits by the states against the tobacco industry, there was a desire to see if my results held up nationwide. In 1997 was a national replication of my '91 survey, with some modifications and 1998 was a survey done in the State of Massachusetts that I designed, ran and administered from start to finish which expands on the previous surveys, includes blue collar information that Judge Weinstein mentioned.
Q In 1997 we wanted to replicate the earlier studies and the questions with different diseases, different types of probability, those were included in the survey but it was run for a national sample, correct?
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A That's right.
Q In 1998 you ran a survey that was limited to the State of Massachusetts, right?
A Right. In each case I have over a thousand people in the sample. They're good sized sample.
Q You feel comfortable as a scientist reporting the results and reaching conclusions based upon that data?
A Yes.
Q In 1997, you didn't design the survey yourself, did you?
A No, the Audit & Survey incorporated my 1991 questions into the 1985 survey, essentially that's what happened.
Q Did you get all the data, analyze it yourself, run all the statistical tests on it yourself?
A I did. Those are my estimates using the raw data.
Q In 1998 you played a much larger role, just like '91, correct?
A Right.
Q Explain to us exactly what you did when you ran it from top to bottom?
A Yes, that survey was administered by Roper Starch. I was the one who had contacted with the survey form designing all the questions which is why we added all the occupational information to get a blue collar/white collar and I did everything except make phone calls. There's no tobacco industry influence on the survey other than they paid the bill
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after I ran the survey.
Q Did the tobacco companies exercise any editorial control over your survey design in any way?
A No.

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Q Did the tobacco companies exercise any editorial control over your analysis of any of the data from any of the surveys?
A No, in fact in two of these cases, '91 and '97, I also received no reimbursement for my analysis. I did it on my own for research.
Q We didn't pay you to review the 1997 data?
A No.
Q Were the results consistent? Let's go right to the bottom line. Were the results consistent across the board?
A Yes, they were. What you find is that in every one of these surveys people greatly overestimate the lung cancer risk, whether lung cancer, getting lung cancer or dying from lung cancer relative to the estimates by the Surgeon General and relative to the estimates from Dr. Selikoff.
Q People believe smoking is more dangerous than it actually is, that's the conclusion you draw?
A That's correct.
Q Did you keep your results and your analysis a secret?
A No, I've published these results.
THE COURT: May I get back to something? I hate to keep interrupting, but it's a fascinating set of placards.

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Is there any way to conduct a survey, using reliable methods, that would give you historical data about people's beliefs back beyond 1995 because the evidence suggests there were different levels of awareness and publication over the years. Is there any way of projecting backwards?
A We have a Roper study in 1980 similar to my 1985 results. The difficulty with actually asking a survey question today about what you were thinking back then is that with hindsight it's hard for people to put out of their heads everything they've learned since then. People have not been that successful in actually asking retrospective questions.
THE COURT: What about any statistical methods using a series of surveys from 1980 on?
THE WITNESS: This at least suggests --
THE COURT: Statistical projections backwards.
THE WITNESS: These results suggest, if you look at the last one, that things have been pretty stable, tossing out North Carolina which is sort of weird, that risk perception certainly for the past two decades have been stable. I would think that that would be fairly true through the 1970s but I think pre-1964 they might be quite different because that was before all the information came out with the big Surgeon General's report.
THE COURT: Thank you.
Q You said you published your data in peer review journal

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articles and books?
A Yes, books by Oxford University Press, the leading peer review journals in economics.
Q When you published the results of the studies, your analyses of the data, did you disclose the tobacco companies had financed the 1985, 1997 and 1998 surveys?
A I do disclose this. In fact, in the smoking book I also include a copy of the survey questionnaire, any research I request the data or provide them with the data. In fact, we've made all my data available to the plaintiffs in this case.
Q Did the editors or Academic Advisory Committee panels at Oxford or MIT or at Harvard balk at publishing your data

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because of the fact the tobacco companies had financed the surveys?
A No, the conclusion by the reviewers is that the merits of the surveys, institute on their own, reviewed the survey questionnaire, the data, concluded it was sound.
Q Based upon this data, what is your conclusion as to whether or not people believe smoking is dangerous?
A My conclusion is that people do in fact recognize the truth which is that smoking is dangerous.
Q Again, plaintiffs have alleged the defendants' advertising and published statements have distorted the body of public knowledge causing people to underestimate the risks

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of smoking. Did you collect and analyze data for nearly two decades, 1985, 1991, 1997 and 1998, what do you have to say about plaintiffs' allegation?
A When all the dust settles, everything is said and done, you have to look at risk perceptions, where do risk perceptions end up and people's risks perceptions are above the actual scientific estimates of the risk whether we use the Surgeon General or Dr. Selikoff.
Q We focused in examining all this data on people's perceptions of lung cancer risk. You've never yourself gone out and surveyed people to find out what is their awareness of the synergistic risk of the combination of tobacco and asbestos, have you?
A No.
Q Is it fair then to apply your data on your analysis in this case?
A Yes.
Q Why is that?
A The reason is that the health outcome in this case is not synergy, that's not health outcome. The health outcome is lung cancer. We want to know do people perceive the risk of that health outcome, and they do.
Q You mentioned we were talking about changing up the survey that you also tested different diseases and expected life loss. I would like to turn to that attention to see if

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our results are consistent. Have you prepared some charts that will help us understand the results of your surveys with respect to those questions?
A Yes.
MR. WAGNER: I'm first going to put you up Viscusi 22 and 23. I'll put them up at the same time to see if we can't get through these.
THE COURT: Does anybody in the jury need a break now? We'll take a short break.
(Jury leaves courtroom.)
(Recess.)
(Continued on next page.)

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(The following occurred in the absence of the jury.)?
THE COURT: Did you get an exhibit number?
MR. WAGNER: Yes, Your Honor.
The exhibit number for the Meet the Press transcript is ARF 001716.
THE COURT: Thank you.
(Jury present.)
THE COURT: Go ahead, please.
EXAMINATION CONTINUES
BY MR. WAGNER:
Q Professor Viscusi, before the break we were talking about the fact that after 1985, the surveys asked questions about other types, tried to measure the risks in other ways.
We have tried to group these together in Viscusi 22 and Viscusi 23.
This chart for lung cancer -- this is the chart for lung cancer we were discussing on the other board. Is that right? That's just a repeat of that?
A Yes.
Q Here is the total mortality, the data where you said talked about all smoking related diseases. Tell us what that is. Remind us about that and tell us about the results.
A The total mortality questions got at the total number of people who had died from all causes from smoking as opposed to just lung cancer. The total mortality answers from '91, '97,
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'98, range from 50 to 54 out of a hundred.
Q Fifty to 54 out of a hundred people will die from some smoking related disease because of the fact that they smoked. That's what people believed, correct?
A That's correct.
Q What is the actual risk figure?
A The actual risk is 16 to -- or 18 to 36 percent. I believe Doctor Burns has testified here regarding a 40 percent figure.
Q Doctor Burns came in and testified and said 40 percent of smokers will die prematurely. You put that on your chart. You just accepted that at face value. Is that correct?
A That's correct.
Q How does the 40 percent figure, even if we take Doctor Burns completely at face value, how does this compare to what people believed about the dangers of smoking?
A It is below all of the survey results in terms of people's beliefs.
Q Okay.
THE COURT: The chart on the left, the 20 percent, is the additive amount for asbestos, is that correct?
MR. WAGNER: Yes.
You are talking about here?
THE COURT: I am asking the witness.
MR. WAGNER: I'm sorry.
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THE WITNESS: I believe it's the -- the way I interpret Doctor Selikoff's interview, it is the total amount for asbestos workers, roughly 90 percent of them smoked so that it's the combined effect of smoking and asbestos.

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THE COURT: But the added amount, at least as someone might read this chart, for asbestos exposure is the dotted open portion at the top of the actual bar, correct?
THE WITNESS: That is correct.
THE COURT: Now, if you move to the chart to the right, the actual bar, that is not what that dotted open area reflects, is it?
THE WITNESS: I don't know what Doctor Burns' number is. I assumed it was just the mortality estimate for cigarettes.
THE COURT: That has nothing to do with the asbestos? That is, that open area is not comparable to the open area on the 20 percent? It is just you have used the same symbols but they don't mean the same, correct?
THE WITNESS: That is correct.
I think the one on the right is just his alternative version of my 18 to 36.
THE COURT: Okay. But it has nothing to do with the asbestos issue?
THE WITNESS: I believe it does not.
THE COURT: Okay.
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EXAMINATION CONTINUES
BY MR. WAGNER:
Q Okay. Let's look at the last way, the probability question that you were asked with years of life lost. Remind us what the question was, how it worked and what your results show.
A In each case, the survey gave people information regarding normal life expectancy and they had to assess the expectancy, life expectancy of a smoker of their gender, depending on whether it is a male or female answering the question. So that the scientific reference point from the Surgeon General would be that smoking causes you to lose three point six to seven point two years of life. These numbers are consistent with what the British medical establishment found as recently as the year 2000.
I compare that scientific reference point with people's answers, and they are fairly similar. Let me just pick '97, the one in the middle. Men think the life expectancy loss is ten point one years. Women think it's fourteen point eight years. Each of these numbers is above the life expectancy loss estimate using the Surgeon General's figures.
Q Why do you break up your data between men and women?
A Main reason is that women live longer than men so they have more at risk than men. So I wanted to see what their
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assessed life expectancy loss would be due to smoking.
Q Professor Viscusi, having looked at people's beliefs about the dangers of smoking in three different ways and having compared people's beliefs to the actual risk data provided by the Surgeon General, by Doctor Selikoff, by Doctor Burns, what is your opinion regarding whether people understand the risks and dangers of smoking?
A My opinion based on all of these survey results is that people do understand that smoking is dangerous. In fact, relative to the scientific estimates of the risk, the risk beliefs are higher than the scientific estimates so they actually overestimate the risk.
Q Professor Viscusi, in this case the plaintiffs have

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focused on a particular segment of consumer, Judge Weinstein has brought it up, blue collar workers.

Have you been able to analyze data specific to that group?

A Yes.

One of the surveys, the one I designed in 1998, did include a question that enables you to pick out the blue collar workers.

Q Have you prepared a chart that will help us see the results of your data for what blue collar workers believe?

A Yes.

Q I am displaying Viscusi 24, Your Honor.

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We have displayed the data in the same way, and Professor Viscusi, first tell us what the Surgeon General reported about blue collar workers smoking rates?

A The Surgeon General as well as other people report that blue collar workers are more likely to smoke than white collar workers.

Q You accept that at face value?

A I do.

Q You have studied risk perceptions for blue collar workers in your 1998 survey?

A Yes.

Q What did you find?

A What I found is that blue collar workers are not that much different than white collar workers. So if you look at their lung cancer risk beliefs, blue collar workers thought in 1998 that 48 out of a hundred smokers would die from lung cancer because they smoke. White collar workers thought it was 45 out of a hundred. So basically the same.

Total mortality, blue collar workers thought the risk was fifty-five point five smokers would die out of a hundred due to smoking. White collar workers thought it was fifty-three point four. Once again, basically the same.

Expected years of life lost, blue collar workers assessed as twelve point three. White collar workers, in part because there are more women in that group, assessed as twelve

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point five. Once again, these are basically the same.

There appears to be no real difference in the risk beliefs of blue collar workers as opposed to white collar workers.

Q How did you define blue collar workers? Was that something you made up?

A No. I got information regarding the occupation of the person in the survey. I used the same criteria used by the Bureau of Labor Statistics which is part of the United States Department of Labor.

Q So your conclusion is that blue collar workers understand the dangers of smoking and actually believe they are higher than the actual risks as well?

A Yes.

Blue collar workers and white collar workers are virtually indistinguishable.

Q Professor Viscusi, when Professor Hanson was here, he testified that people, including blue collar workers, don't really make choices, the choices are very difficult and that people think they are using reason when they are really not.

Do you agree or disagree with the suggestion that blue collar workers are somehow incapable of understanding the

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dangers of smoking and making choices?
MR. BICKS: Objection, Your Honor.
It is a mischaracterization of Professor Hanson's
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testimony.
MR. WAGNER: Actually, I can display Professor Hanson's testimony where he said at page 1707 of the transcript, in response to questions -- it is not focused.
Questions about choice, Professor Hanson said, I also can -- sometimes those cases are not as rational as they think, that is, they perceive themselves to be making judgments based on reason and often it's not the case.
That's what I am asking Professor Viscusi to respond to.
A I have studied blue collar workers for over 25 years in a variety of contexts, not only smoking but also job safety. I found that they are capable of perceiving risks and making sensible risk decisions, with respect to a wide variety of risks, not just smoking risks but also risks on the job and reacting to information regarding risks on the job, and I don't think we should sell the rationality and the capability of blue collar workers short.
Q So blue collar workers act in rational ways regarding a wide variety of risk taking behavior. That's a conclusion you formed based on your tests, studies and your experiments?
A That's right.
Q Blue collar workers aren't easily duped, are they?
A That's right.
If they are injured on the job they will be likely to
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quit learning that it is risky, for example.
Q How can we understand people choosing to smoke if there is all this over perception of the risk? How do we understand why smokers make that choice to smoke?
A The reason I would give is that it's like any other consumer product. People buy the product and use the product because they enjoy it. So that people would smoke because they derive some pleasure economic benefit from it. They enjoy smoking.
Q You have studied smokers as a group?
A Yes, I have.
Q What have you found about smokers as a group and whether or not they are willing to engage in some riskier activities?
A Well, when you are making this decision whether or not to smoke, on the plus side there is the enjoyment you get from smoking. On the minus side is the risk and the health effect.
What I have found is that smokers differ systematically from non-smokers in terms of how they think about the health effect, how they value the health effect. So smokers are more willing to take risks, not just smoking risks but risks of all kinds.
Q Does that mean they don't understand the risks or they underestimate the risks?
A No. I have shown both for smoking as well as for job
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risks, for example, the smokers risk perceptions are fine. They don't underestimate the risk at all.
However, smokers are more willing to engage in risky activities because there is a different value on the health

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risks as compared with other forms of payoffs, like the economic enjoyment they get from cigarettes.

Q Okay. Professor Viscusi, we have completed the discussion of the surveys that you have run and that you have analyzed. I want to turn to a different set of survey data and ask you a few questions about this other data we've already heard about in this case. Professor Hanson talked about it. He discussed with us a survey run by Fingerhut Granado, a series of surveys run by the National Cancer Institute, as part of Surgeon General Richmond's asbestos awareness campaign, and the Roper survey conducted for the Federal Trade Commission that you referred to a little bit earlier. Are you familiar with each of these studies?

A Yes, I am.

Q Let's begin with the Fingerhut Granado survey, if we can. Do you have an opinion as to whether or not this survey provides reliable evidence of people's awareness of tobacco asbestos synergy?

A I have two opinions. First, I don't think it provides reliable evidence. Second, I disagree with your characterization of it as being a survey. It's not a survey.

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It's a focus group. That's not a survey.

Q All right. Have you prepared a chart that will help us understand your opinions with respect to the Fingerhut Granado project?

A Yes.

Q I am displaying Viscusi 26.

You began to tell us, this is a focus group and not a survey at all. Why don't you explain that for us?

A Well, first of all, what's a survey? A survey would be you have a questionnaire, for example. You call people up and run through a series of questions in order and you get the responses to questions.

Focus groups, what they did here is sixty-four people who are brought in and essentially it was a brainstorming session run by a moderator. So it's a discussion session, where a lot of discussion takes place on a lot of topics. You don't know the order of the discussion, what people said, what people said is part of the discussion. So that you can't really evaluate the results as you would a survey where you know the exact structure.

Q Do you have firsthand experience with focus groups?

A I do.

You run focus groups as part of a preliminary effort before you do a survey. The main reason you run a focus group is to see how you want to word a question so people can

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understand it. So you try out different wordings with people, how do they think about what are quality, that's what we are doing now, what kinds of things will resonant with them. That's what you do with the focus group.

But a focus group is not a survey. It is a preliminary presurvey activity.

Q Were we able to see the questions that the focus group moderators asked?

A We don't know the questions. We don't know the answers. We don't know what was said. We don't know the order of anything that happened. So it's impossible to evaluate any results from this on a scientific basis.

Q Okay. You have said here that the questions don't

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measure awareness of synergy. You characterize some of the questions that was in the Fingerhut Granado document. Why don't you explain to us what you are getting at there?
A Well, there are a lot of questions asked -- asking people about their job satisfaction. Then when they got around to the asbestos question, the question did not ask them explicitly about the synergy between smoking and asbestos. It asked this open-ended question. Do you believe there is anything you can do to reduce the danger from asbestos?
So it didn't ask them if they believed in synergy. A natural response might be, get away from the asbestos. So do what you can to -- in terms of wearing a protective mask, see
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your doctor to get advice was another very popular response.
But it did not explicitly address synergy.
Q You have suggested at the bottom here that the results of the focus groups contradict the plaintiffs' theory of the case. Explain that to us.
A The focus group consisted of a series of subsamples of people. One of those groups, about fourteen, I think, were the Baltimore insulators who Doctor Selikoff had worked with. So these people had received all the information from Doctor Selikoff regarding the link between smoking and asbestos. Yet, none of them indicated as part of this discussion that smoking is one thing that you should stop.
Q Okay. Let's turn to the trust' next survey, the National Cancer Institute surveys that were conducted in 1978 and 1979 as part of Surgeon General Richmond and HEW Secretary Califano's asbestos awareness campaign. Are you familiar with those surveys?
A Yes.
Q Do you have an opinion as to whether or not those surveys provide reliable evidence of people's awareness of tobacco asbestos synergy?
A I do.
Q What's your opinion?
A Unlike the last one, this is a survey. However, I don't think that the survey question is an appropriate question to
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address synergy.
Q Have you prepared a chart that will help us understand your opinion?
A Yes.5 MR. WAGNER: Your Honor, I am displaying Viscusi's
27.
Q You say here that this survey from NCI does not measure awareness of synergy. We have reproduced the questions that are asked including the so-called synergy question. Why don't you tell us what you mean?
A Let's read the question itself. What, if anything, do you think people can do to reduce their health risks if they may have been exposed to asbestos?
So this is not a question that explicitly asks about do you believe in synergy at all. It asks what can you do, and it is -- this kind of question is called an open-ended probe. So it is not asking explicitly about doing.
Q You have used some open-ended questions in your surveys, haven't you?
A Yes. So, for example, in the studies we did for the United States Government, we asked an open-ended probe and got unprompted responses which is what they are getting.

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However, we then had prompts. We would then ask people, well, you didn't mention, for example, smoking. Do you think smoking is something you should be worried about?
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In this survey, there were no prompts.

I should also mention this survey was not just a short survey of two pages of questions dealing with asbestos. This was part of a long national survey. They tacked these questions on to a national survey. And if you are there taking a long survey, somebody asks you an open-ended question, you are not going to sit there and try to think of five or six answers. You are going to give them one thing so you can move on to the next question and get out the door.

Q You have experience with that?

A This is what -- we run surveys all the time. This os my experience.

Q You have mentioned a couple of other limitations on the data. Why don't you take us through those real quickly and tell us why that relates to conclusions one might draw in this case?

A This is a survey of everybody. If you do cross-section of the country, you would like to know who are these people. We don't know if any of the people are asbestos workers. There may be some asbestos workers, we can't identify the responses by asbestos workers.

We don't even know if the people were smokers. So this is not a survey of smokers or asbestos workers. This is a survey of a broad cross-section and what you really want to know is whether the particular population exposed to these
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risks got the message, not whether some person in Des Moines who doesn't smoke or is not exposed to asbestos knows about the linkage.

Q Okay, Professor Viscusi. We also mentioned a third study conducted in 1980 by the Roper organization on behalf of the Federal Trade Commission. Are you familiar with that survey?

A Yes.

Q We have seen that the Roper organization survey, we have seen in this already in this case, asked people across the country including smokers and blue collar workers whether they knew it was true or believed it to be true that smoking and asbestos in combination cause at least a fifty times increased risk for lung cancer. Before getting into the data, I want to focus on something else.

Are you aware that the Surgeon General cited the results of the Roper survey?

A Yes. The Surgeon General did cite these results.

Q Can you display three point four?

This is from the 1989 Surgeon General report which is already in evidence. Professor Viscusi, why don't you remind us what the Surgeon General had to say about the interaction between smoking and asbestos and the Roper study?

A I will start with the second paragraph.

Q Sure.

A The 1980 Roper survey unpublished data FTC asked
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respondents about their belief concerning the following statement: If you smoke and have worked with asbestos you are at least fifty times more likely to get lung cancer than if you had done neither. 74 percent of respondents and 69

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percent of smokers said they know it's true or think it's true.
Q I asked Professor Hanson about this and he suggested that the Surgeon General might not be aware of the NCI polls. Let me show you page 1651 of the trial transcript. Three point three.
My question to Professor Hanson was, to your knowledge, does the Surgeon General ever cite the Fingerhut data or the NCI Gallup data that you testified to earlier today?
Professor Hanson answered, after I put the quote back up on the screen, the Surgeon General begins the second paragraph what you just read, emphasizing that few data are available on public knowledge of these interactions. The Surgeon General does not confirm the significance of this Roper poll and seems to be suggesting that this is the best data that is available. Suggesting further that they were unaware of other data that was available, which I have reviewed since this was published.
Skipping down he says, their view, the surgeon general's view, was that this was, the Roper data, was all the
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data that was available.
You see that?
A I do.
Q Professor Viscusi, is it correct to suggest that the Surgeon General was unaware of at least the NCI data?
A Since Surgeon General Richmond commissioned the NCI study, I think it's ridiculous to suggest that.
Q Okay. Let's talk about the Roper data then which was cited by the Surgeon General. You can take that off the screen. Thanks.
Are you familiar with the Roper operation?
A Yes, I am. In fact, I worked with them on one of these surveys.
Q That was Roper Starch in 1998?
A Yes.
Q Are they a reputable organization?
A Yes. They are one of the most prominent survey research firms in the United States.
Q Have you prepared a chart -- two charts that will help us understand whether or not the Roper survey provides us with reliability data?
A Yes.
Q Do you have an opinion as to whether or not -- I am going to display Viscusi 28 and 29 in one second. Let me ask you this question. Does the Roper survey provide us with reliable
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evidence about people's awareness of the risks and dangers of smoking including synergy risks as of November 1980?
A Yes, it does.
Q Okay. Why don't you explain to us quickly why it is reliable and then we will get to the results.
A Well, the survey question itself focuses directly on synergy. If you smoke and have worked with asbestos, you are at least fifty times more likely to get lung cancer than if you have done neither.
This question was included in -- as part of a good survey design. People were to say, do you know if it's true. Think it's true? Don't know if it's true? Think it's not true. No, it's not true. And they are also told that some of

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the things that they are being told in the survey were invented and not true. So that they are to assess them for their own benefits.
Q Now, does the Roper survey ask only about knowledge of synergy or did they ask questions about lung cancer risks in a variety of ways?
A It asked about lung cancer risks in a variety of ways as well as things that were not true such as whether smoking causes senility.
Q You have demonstrated here on Viscusi's 29 a number of the questions. Do you know, or think it's true, questions as to whether or not smoking causes lung cancer, whether

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cigarette smoking is by far the greatest cause of lung cancer, whether smokers are at least ten times as likely to develop lung cancer than non-smokers, and then the asbestos question, do you know or think it's true that if you smoke and have worked with asbestos, you are at least fifty times more likely to get lung cancer than if you have done neither.
Let's focus on the last question, what were the results.
A Looking at blue collar workers, for example, seventy-two point two percent said yes. Five point four percent said no. So you've got a missing thirteen percent who just didn't know. But you still have almost three/fourths of blue collar workers saying yes, it's at least fifty times more likely. If you look at smokers, you gets sixty-eight point five percent saying yes. Seven percent no. The remaining one fourth of the people just didn't know.
Q In your opinion, is this pretty high awareness levels?
A It's extremely high.
Q It's approximately how long after Doctor Selikoff published his results that said it's fifty times more likely?
A About a year.
Q Okay. Professor Viscusi, I am going to take these down so that we can sum up opinion number one.
We have now seen the results and analysis of a number of studies and a number of surveys on consumers beliefs

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regarding the dangers of smoking, right?
A Yes.
Q In your opinion, are these results consistent?
A Yes, they are.
Q The plaintiffs in this case, one last time, have alleged a distortion of the body of public knowledge due to advertisements and other public statements that cause people to smoke when they otherwise wouldn't have. Based upon your expertise and your analysis of survey data, collected by you as well as collected by others, but all analyzed by you, do you have an opinion to a reasonable degree of scientific certainty regarding whether the body of public knowledge has been distorted causing people to underestimate the risks of smoking?
A Yes, I do.
Q What's your opinion?
A My opinion is that all the measures you can look at indicate the people do not underestimate the risks associated with smoking.
Q Tobacco advertisements and public statements notwithstanding?
A That's right.

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Q To be clear, are you here saying that smoking is not dangerous?
A No. I think smoking is very, very dangerous.
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Q Okay. I want to turn -- that concludes opinion number one. You said we had two opinions in this case. The second opinion is, that an additional lung cancer warning tied to synergy would not cause people to quit smoking. That's the second opinion that you are offering in this case, right?
A That's right.
Q I will take this down.
Professor Viscusi, let me ask you this. What is an ambiguous risk?
A An ambiguous risk arises in situations where there are a lot of different scientific estimates out there about the risk and you don't know which one is right.
Q Have you prepared a chart that will help us understand the concepts of ambiguous risks?
A Yes.
Q I am displaying Viscusi 30, Your Honor.
You have said in point number one people face risks all the time. We have gone through examples at the beginning of your testimony.
A Yes.
Q You have an illustration here about a common risk that you began to talk about before. Why don't you explain that to us and tell us about the different sources of information from which people might be receiving information about a risk, using this as an illustration.
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A This is a person using a cell phone. There is lots of information out there now speculating that cell phones might cause brain cancer. It may be that cell phones are completely safe. It may be they are risky. You are getting information from the cell phone manufacturers, from the government, from the consumer groups, from scientific researchers. I saw a book on a bookstore just this weekend talking about cancer risks from cell phones. So there is a lot of conflicting information out there that people have to run with, not knowing the truth.
Q So information can come from industry making a product, can come from the government, can come from consumer health groups all over the place, is that right?
A Yes.
Q The same as happens with cigarettes?
A That's right.
Q Okay. What's the next step in understanding how people will process this information? What's the next step?
A We have to know what information they have and try and figure out how they have actually analyzed this information in situations where people disagree.
Q You have studied how people process ambiguous risk information, is that correct?
A I have done this work for the federal government throughout the 1990s. I ran a series of studies for the
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Environmental Protection Agency on this.
Q Have you prepared a chart that will help us explain the kinds of tests and experiments that you have done on this topic?

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A Yes.
MR. WAGNER: Your Honor, I am displaying Viscusi 31.
Q This is an example done from a test you actually performed for the federal government, right?
A That's right.
Q Why don't you show us what is up here and how you created this test and what you did to understand how people will filter and process risk information coming from a number of places?
A We see on this chart two pictures. One is a nice looking city, that's clean and unpolluted. The other is a polluted city.
We designed a study for EPA in which we asked people that they -- told people they'd have to move to a new region that was polluted and there was some risk of cancer but there is a debate concerning how risky it was.
The chemical industry may have come up with some studies regarding the risk. The government came out with other kinds of studies. A situation where there were two government studies, or two chemical industry studies.
The question is, when they got conflicting studies
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indicating different risk levels, how would people interpret that?
Q What did you find? Do people -- if they get one estimate that says it's high and one estimate that it's low, do they just take the average?
A No.
People tend to gravitate to the worst case scenario. So if you have the government saying the risk is high and the polluting industry saying it's low, people believe the worst case, the government. If you said the industry said it was high and the government said it was low, they still gravitate to the worst case. It doesn't matter who it is, whenever there is this risk debate from different groups, people gravitate to the worst case scenario.
Q That's very common, isn't it, that if a news story comes out and people are told there is a health risk, they hear that, they go right to the bottom line and they say, this is risky. That's what you have found, is that right?
A That's right.
Q People, therefore, if they get the message or if the message comes out that cigarette smoking is risky, is additional information, say, about the particular risk of benzopyrenes or the particular risk of tobacco specific nitrosamines, is that going to alter the risks calculations and risk beliefs?
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A What people want to know is if something is dangerous or not. That's why if you look at prescription drugs, for example, will indicate a risk of stroke or risk of some other adverse health outcome but it won't give you all the detailed scientific information that is impossible for the ordinary person to process.
Q They just don't get hung up on the details? They go right to the bottom line?
A A good warning should only provide the bottom line, for example.
Q Okay. Ultimately I think what you said is that people believe the higher assessment, no matter what the source. Was that something you were expecting going in?

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A No. I thought that there might be some aversion to ambiguity. But I thought the source might matter. I was surprised that people reacted in such an extreme way of really gravitating to the worst case scenario.

(Continued on the next page.)

BY MR. WAGNER:

Q And the federal government paid for this study?

A They provided all financial support for the study and the survey that I ran regarding it.

Q And did you publish the results of your analysis in a peer-review journal?

A Yes. It was published in a journal published in England called Economic Journal.

Q Have you received any prizes or recognition for this article?

A Yes. This article received the Article of the Year award from the Royal Economic Society, which is a prominent international economics organization based in the United Kingdom.

Q Professor Viscusi, if people are going to hear information and just fear the worst and gravitate towards the worst-case scenario, does that mean there's no role at all for hazard communications and warnings?

A No. There's still a hot of circumstances in which hazard warnings and risk communication can provide people with information to enable them to make better decisions.

Q This is something you have studied extensively for the federal government, the White House, Environmental Protection Agency and others?

A That's right.

Q You have studied different types of hazard warnings, and what makes them effective and why?

A That's right.

Q You have done them for lots of other people, just not tobacco?

A Yes.

Q Have you come up with ways to test whether or not a proposed warning would be effective?

A I have.

Q Have you prepared a chart that will help us understand that?

A Yes.

MR. WAGNER: I'm going to display Viscusi 32, your Honor.

BY MR. WAGNER:

Q You have indicated to us that there are tests that can be applied to hazard-warning programs. You have three kinds. Take us through the first one, "Experimental studies." What do you mean by that?

A Well, an experimental study, we have designed various versions of a particular product. So, for example, toilet bowl cleaner, but with different hazard warnings labels on it,

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to see whether changes in the warning label, changing the prominence of the information, adding precautionary information, did that affect how people would use the
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product? So, that would be an experimental study.
Q How about actual market tests? What does that mean?
A A market test would be to go out there and look how people actually used products bearing warnings. One example of that was the drug tetracycline. And the problem with that drug is that it causes tooth-staining in young children. After the tooth-staining warning went out, I analyzed the data for Bristol-Myers Squibb, which is a drug company, to see whether doctors stopped prescribing this drug to the children who might get their teeth stained by it.
Q Once they had the warnings?
A Once they had the warning.
Q You also say you can test it against scientific literature. What does that mean?
A Well, there is a scientific real literature on the design of the hazard warnings based on studies, such as experimental and market studies, that you can apply the principles to these market studies to judge a warning.
Q You have studied hazard-warning programs for lots of different industries, including asbestos?
A That's right. In fact, all the warnings up there are warnings from various studies that I have done. We have asbestos, TNT, cleaning agent, which is actually bleach, drain opener, and an insecticide patterned after the Ortho Malathion label called Zinbryl.
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Q You've published the results of your work, I think we saw before, in some of the peer-review journals, such as "Informational approaches to regulation" and "Learning about risks"?
A That's correct.
Q Based upon all of your studies, Professor Viscusi, have you come to a general principle on what makes a hazard warning effective?
A I have.
Q What is that?
A Summarizing it basically in one sentence: For warnings to work, they must convey new information in a convincing manner. So, simply repeating old information doesn't do any good.
Q Is there a particular term you use to describe warnings that just give people information that they already have?
A A commonly-used term would be a reminder warning.
Q Have you ever done studies on the effectiveness of reminder warnings?
A Yes.
Q Have you prepared a chart that will help us understand your work with respect to reminder warnings?
A Yes, I have.
MR. WAGNER: I am going to display, your Honor, Viscusi 33.
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BY MR. WAGNER:
Q The test you performed was with respect to chemical-worker warning labels; correct?
A That's right.

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Q Why don't you tell us what you did?
A In that study, we tested a series of hazard warnings for chemicals with a sample of workers at four different chemical plants. What we found is that the hazard warnings that provided new information to workers, these were the warnings that had an effect. They alter risk beliefs. They affected how much money the worker wanted for a job. They affected whether the worker would quit the job.

But if the warning did not provide new information, then it didn't have any effect.

Q So, then, it wouldn't change behavior?
A No effect on behavior.
Q Just a reminder?
A That's right.
Q Did you publish the results of your study?
A Yes, it was published not only in one of my books, but also in the American Economic Review, which is the leading peer-review journal, and published by the American Economic Association.
Q Have other experts in this area published similar results?

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A Yes.
Q To your knowledge, has anyone, anyone, ever published any studies that go the other way, that indicate that reminder warnings do change people's behavior?
A I've never seen such a study.
Q When you say that it has no effect on people's behavior, that it's not changing people's behavior, tell us again, in simple terms, what that means. If you are reminding them about something, what's the behavior that's not going to change?
A People keep doing what they were doing. Their risk beliefs don't change. The precautions they would take don't change, whether or not they would engage in a risky activity, such as taking a hazardous job don't change, because you have told them something they already knew, so there's no reason to change that they are doing.
Q Can you think of another example of reminder warnings with which we might be familiar?
A Seatbelts.
Q Tell us about that one.
A I wasn't the one who did the study. This was done by a former commissioner of the U.S. Consumer Products Safety Commission, who went on to head the Consumers Union.

What he concluded, he evaluated all of the seatbelt campaigns. The jingles on the air we used to hear, "Buckle up

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for safety, buckle up" didn't do any good.

If you were a safety-conscious person and you had seatbelts, you would wear them. If you were not a safety-conscious person, you wouldn't wear them. Simply having the jingles repeated and having this campaign was not effective.

Q Okay. Now, let's bring it home. Let's apply this analysis to the synergistic risk for lung cancer.

Professor Viscusi, you have testified, others have, too, the Surgeon General has reported, about the public-health campaign to get the word out about the risks and dangers of lung cancer and other smoking-related diseases; right?
A That's right.

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Q And are you also aware of efforts to disseminate information specifically about the combined or synergistic risk of tobacco and asbestos in causing lung cancer?
A Yes, I am.
Q You're aware that Professor Martin, who we interrupted, he's going to come back and testify to those efforts in great detail; is that right?
A I hope so, yes.
Q You've testified about reminder warnings. I want to ask you briefly about whether or not you were aware of one aspect of the information that's out there, and that's Dr. Selikoff's efforts with Dr. Nicholson and with others at Mount Sinai to

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spread the word about the synergistic risk for lung cancer. Are you aware of that?
A Yes.
Q Are you aware that one of the aspects of that effort was something called the green sheets?
A I am.
Q Now, the green sheets, am I correct they were published by the Mount Sinai group, by Dr. Selikoff's group, they were an insert to the Asbestos Worker Magazine?
A I believe it came out quarterly.
Q I am showing your Honor WS-002662, an Asbestos Worker Magazine. It is an example of the very first green sheet. When it originally came out, it was green. I only have a xerox copy.
THE COURT: That's in evidence, is it not?
MR. WAGNER: I believe so. I believe so. These were part of the union documents.
BY MR. WAGNER:
Q And this reports on mixing cigarettes and asbestos; correct?
A That's the lead line, "Cigarettes and asbestos don't mix."
Q It gives them an up-to-date and a progress report on Dr. Selikoff's work and the synergistic risk for lung cancer; correct?

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A That's right.
Q Now, Professor Martin is going to testify about the widespread dissemination of green sheets and other warnings, so I don't want to ask you about that.
I want to know whether or not you are familiar just with Dr. Nicholson's testimony about the Mount Sinai group halting publication of the green sheets, because the word had been spread and because they concluded that they already said what they can say about the synergistic risk of lung cancer, are you familiar with that?
A I am.
Q I would like to take a look at that testimony. It is 3.7 and 3.9.
Dr. Nicholson's deposition was taken on June 5, 2000 in this case. And at page 224 of the deposition, the question is asked: "Dr. Nicholson, how long were the green sheets published through Mount Sinai?
"ANSWER: I believe it was seven years.
"QUESTION: They started in what year?
"ANSWER: They started in the first quarter of 1969. And you have the set. I think it's seven years.
"QUESTION: Why did you stop?

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"ANSWER: It was getting repetitive. We did not have an industrial-hygiene program at that time, and the insulators were no longer using asbestos in their products,
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and certainly had occasion during removal, but we said, I think, all we could say."

Do you see that testimony of Dr. Nicholson?

A I do.

Q Is that what you were referring to a moment ago?

A Yes.

Q Is this an example, just an example, of why you've concluded that there was a great depth and breadth of information out there regarding the synergistic risk of lung cancer from tobacco and asbestos?

A Yes, that's one reason.

Q And if that's true, what would you call an additional warning about the synergistic risk for lung cancer from tobacco and asbestos? What would you call that?

A It would be a reminder warning. Once you've said all that you can say, as Dr. Nicholson puts it, there really is nothing left to add, and people have the message.

Q Do you have an opinion, to a reasonable degree of scientific certainty, as to whether or not such a warning by the tobacco companies who motivate more asbestos workers to quit smoking?

A My opinion, based on my research, is that it would not alter smoking behavior.

Q Along these same lines, then, along these same lines, I would like you to review for us what Dr. Selikoff himself said
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about his campaign to inform and educate and work with the asbestos workers, and whether or not that was able to motivate asbestos workers to stop smoking because of the synergistic risk of lung cancer, okay?

A That's right.

Q You are aware, Dr. Selikoff began working with the insulators in the mid-1960s; correct?

A Yes.

Q We have displayed on this chart two letters, back and forth, between Bernard Ellis, the Program Director for Smoking and Occupational Activities, Office of Cancer Communication at the Department of Health, Education and Welfare, to Dr. Selikoff.

And these letters are Exhibits ARC-000565 and -000564.

THE COURT: They are in evidence.

MR. WAGNER: They are in evidence already.

BY MR. WAGNER:

Q Now, apparently, according to this correspondence, Mr. Ellis and Dr. Selikoff had a meeting at the recent National Cancer Advisory Board in Bethesda, Maryland on January 21, 1980, and Mr. Ellis is writing to follow up on a point that they discussed during the meeting. And what did Mr. Ellis say?

A I'll read it: "In discussing your experience with
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encouraging smoking cessation among asbestos workers," --

Q "Smoking cessation," that means quitting?

A That's right.

Q Go on.

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A --"you indicated that your efforts had resulted in a thirty percent quit rate over ten to fifteen years in this cohort.
Q What does that mean?
A In this case, it would mean a group of workers that he's tracking over time.
Q Those are the workers Dr. Selikoff is working with?
A That's right.
Q What else did Mr. Ellis state?
A "You further stated that you compared this rate with that of a control group drawn from the American Cancer Society study, for whom there was presumably no aggressive intervention, in which you found a 39.5 percent quit rate."
Q Is there a statistically significant difference, over ten to fifteen years, between a 30 percent quit rate and a 29.5 percent quit rate?
A No. Rounded off, 29.5, is 30. Essentially, the quit rate is the same in Dr. Selikoff's sample and in the control group, which would indicate to Dr. Ellis that there was no effect.
Q Mr. Ellis asks Dr. Selikoff, in words or substance: Are

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you sure you got the control group rate? Maybe we ought to look again. A month later, on March 5, 1980, Dr. Selikoff responds to Mr. Ellis, and what does Dr. Selikoff have to say?
A He says: "There seems to have been some inadequacy of communication when you spoke to me concerning the control group for our asbestos workers smoking study. The American Cancer Society's experience was utilized, but only those men very much like the insulation workers, blue-collar" were part of the study.
Q We added that last part, "were part of the study"; correct?
A That's right. But that's the way the text goes.
Q In your opinion, Professor Viscusi, does this establish that, given the depth and breadth of information that's already out there about the synergistic risk of lung cancer, that even Dr. Selikoff's aggressive intervention effort, beyond warnings, did not motivate more asbestos workers to quit smoking?
A Correct. This result provides empirical verification of my conclusion that reminder warnings will not do any good.
Q So, if that's true, does this establish that additional warnings by tobacco companies or anybody else about the synergistic risk for lung cancer would not have caused more people, including asbestos workers, to quit smoking?
A Yes.

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Q Thank you very much, Professor Viscusi.
THE COURT: Do you want to take a few minutes before you begin to cross-examine?
MR. BICKS: Yes, your Honor.
(Jury excused.)
(Recess taken.)
(In open court; jury present.)
THE COURT: Go ahead, please.
CROSS-EXAMINATION
BY MR. BICKS:
Q Good afternoon, Professor Viscusi. My name is Peter Bicks, and I represent the plaintiffs here.
The first thing that I would like to talk to you

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about is the work that you have done for the Tobacco Industry. Is it fair to say that you first started working with the Tobacco Industry about thirteen years ago, 1987?
A I believe it was around then, yes.
Q You were, first, if I understood from your direct, you were retained by a law firm working for the Tobacco Industry?
A It was a law firm in Cleveland representing R.J. Reynolds.
Q And between 1987 and to date, under certain circumstances, you have been working with law firms for the Tobacco Industry, and under other circumstances, you have been actually working directly with the Tobacco Industry?

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A Almost all of it has been law firms representing the industry. I worked on one warning for the Tobacco Industry, on the warning for the Premier cigarette that I helped design. It's almost all for the law firms.
Q In connection whether the Premier cigarette, that's some work that you had done in connection with the warning issue relating to the Premier cigarette?
A That's right. There was a fire risk from the cigarette.
Q Were you also paid to testify for the industry regarding FDA and OSHA jurisdiction?
A I didn't testify on jurisdiction, but I testified on aspects of the regulatory proposals by FDA and OSHA.
Q What about with respect to advertising issues? Did you work with the Tobacco Industry in connection with any advertising issues, Camel?
A No. I've worked on the FTC case involving Joe Camel, but I haven't done any advertising work designing ads.
Q That was for the Tobacco Industry?
A It was for law firms representing them, yes.
Q And you've also, obviously, been involved in doing work where there were actual lawsuits against the Tobacco Industry; correct?
A Yes.
Q And I think I've read from some of your prior testimony that you indicated, I believe, that most of your contacts have

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actually been with lawyers for the Tobacco Industry, rather than people actually at the tobacco companies?
A That's correct.
Q Since your retention, you have actually worked on a number of different lawsuits; correct?
A That's right.
Q You worked on a lawsuit in the state of Mississippi for the Tobacco Industry?
A That's right.
Q You worked and were paid by the Tobacco Industry for a lawsuit in the State of Florida; am I correct?
A That's right.
Q You worked for the Tobacco Industry and were paid in connection with a lawsuit in the State of Minnesota?
A That's right.
Q You were working for the Tobacco Industry and getting paid in connection with a lawsuit in Texas; correct?
A That's right.
Q You were also working for the Tobacco Industry and getting paid in connection with a lawsuit in the State of Washington; am I right?
A That's right.

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Q You also worked and were paid by the Tobacco Industry for a case in the state of Ohio; am I correct about that?
A No. They never paid me. I did no work in Ohio.
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Massachusetts was the other one.
Q Did I read some testimony that you gave in the State of Ohio?
A That's the Ohio ironworkers' case. But that was not a state lawsuit.
Q I'm sorry. You testified in a case in the State of Ohio; right?
A That's correct.
Q You were obviously paid in connection with that work?
A That's right.
Q You also are retained by the tobacco companies and being paid in connection with a lawsuit filed by Blue Cross, are you not?
A That's right.
Q And you are also working for the Tobacco Industry and getting paid in connection with a lawsuit filed by something called National Asbestos Workers; correct?
A Yes.
Q In fact, we've got to get you out of here, because you have to testify in another lawsuit for the Tobacco Industry nearby here; correct?
A That's correct.
Q Are there any other cases for the Tobacco Industry, other than those that I have tried to remember, over the last thirteen years?
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A There are some other individual cases in which I have been deposed. But I believe you certainly hit all of the state cases, and we've covered all the cases in which I've testified in court, which is two, counting today.
Q Tell us, then, how many total cases are there that you have been hired and paid by the tobacco companies to work on?
A I think it's roughly twenty cases. I don't know the exact number, but that would be how I would ballpark it.
Q It was pointed out, obviously on direct, that the Tobacco Industry is not the only industry that you have worked with; right?
A That's correct.
Q In fact, we have put up here Viscusi 5, which identifies some companies that you have worked for; right?
A These are companies I've consulted to, yes.
Q And I notice that one of the companies that wasn't on here was Exxon Corporation. You've actually done some consulting for Exxon Corporation?
A I've done consulting for them and against them.
Q In fact, you have done some consulting work for Exxon Corporation involving the Exxon Valdese oil-tanker spill; correct?
A No, I consulted against them, for the U.S. Department of Justice on the Exxon Valdese oil spill.
Q Have I read an article of yours where you acknowledged
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that you received money from Exxon, a grant from Exxon; is that correct?
A Yes. But that's not related to the Exxon Valdese oil spill per se. That study focuses on jury behavior regarding

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punitive damages generally.
Q You have articulated your views, as financed by grants of Exxon, that punitive damages essentially should be abolished? You've put that in writing, correct?
THE COURT: No. Don't answer that.
Strike that question, ladies and gentlemen.
BY MR. WAGNER:
Q Now, let's talk a little bit about surveys. Actually, before I do that, let me ask you a little bit about your views of tobacco and health matters. Again, you have testified a number of times at depositions for the Tobacco Industry?
A That's correct.
Q And are you familiar with the current position, as we're right here, of the tobacco companies as to whether or not smoking causes cancer?
A I didn't ask them what their position was. I just testified based on my knowledge.
Q You have actually testified at your prior depositions, have you not, about whether -- your views about whether or not tobacco causes cancer?
A I've been asked questions along those lines. But --
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yes. I have testified.
Q And you testified in the Minnesota deposition in 1997, do you remember that?
A I remember being deposed. I don't remember every question.
Q Do you remember at that time that the position of the tobacco companies was not that smoking causes cancer? Do you have a recollection of that?
A I don't recall that. But that's never been my position, either.
Q Do you know actually that in the court, in this courtroom -- and I can show you discovery, requests to admit, if you want -- the tobacco companies now actually say that smoking causes cancer; are you familiar with that?
A No.
Q Actually, at the time, at the time that you testified in Minnesota, the position was that it was not known that tobacco causes cancer; you've familiar with that right? That was the tobacco company position?
A I don't know what their position was then, and I don't know what it is now. I know what my position is.
Q You've testified under oath that to say that tobacco causes cancer, in your view, that would be very misleading; do you remember giving that testimony?
A I continue to believe that I don't like that wording. I
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want to say that smoking increases the risk of cancer, which is what I have also said. It increases your probability of getting cancer. That's different than saying it causes cancer, which implies that you necessarily -- that you necessarily get cancer, with a probability of 1.0.
Q Here is the testimony you gave in Minnesota. You said: "I also don't accept that statement, cigarettes cause lung cancer, as a statement for a warning, because it implies it with certainty, and I think -- the question was sure. You said that would be very misleading.
That's your view, it would be very misleading to say that smoking causes lung cancer?
A As I indicated there, to say it with a probability of

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1.0, if people infer that from the word, because it's misleading. I prefer the terminology, smoking increases the risk of cancer.
Q You were also asked, with respect to your views on smoking and health questions, whether or not cigarettes contain carcinogens; do you remember questions along those lines?
A I believe I was asked questions like that, yes.
Q And I think you were asked whether you regard cigarette smoke to be at the same level of carcinogenicity as lettuce. You said it depends on how much of that smoke you are exposed to, so a small quantity of the tobacco smoke does have the
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same carcinogenic potency as a head of lettuce; is that testimony you gave?
A It's consistent with statements by a National Cancer expert. It is consistent with the Ames studies.
Q This is testimony that you gave in 1997 in the Minnesota litigation, pages 249 and forward:
"It's true that there are dozens, literally dozens of carcinogens in coffee. It's a question of how potent these carcinogens are. For example, lettuce is carcinogenic, but I eat lots of it. Apple are carcinogenic, but I eat it. Beer and wine are carcinogenic, but I still drink. So, you care about the magnitude of the risk, not the counting up of carcinogens."
That's testimony you gave?
A Yes.
Q Now, let me ask you some questions about surveys.
I read in your Washington deposition that you said that other than general reading and work that you had done on job safety, you had not done research in the area of risk perception and smoking prior to your contact with this Tobacco Industry law firm in 1987; is that fair recitation of what you testified to?
A I had done reading and thinking about it, but I never published anything or written any articles.
Q Now, you have written -- you talked about on direct --
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about some of the surveys that you have talked about today; is that correct?
A That's correct.
Q And the first survey you mentioned was done for a law firm, -- that survey was done in 1985 -- and that was done for a law firm for the Tobacco Industry; correct?
A Yes, this was.
Q And then, you mentioned that you did -- it was a survey of 200 people in North Carolina in 1991?
A Well, it's over 200 for the reported results, plus I did other people as pretests and verification.
Q Then, there were two other surveys that were actually done for the Tobacco Industry under the supervision of law firms in 1997 and 1998; correct?
A Well, '98 was my supervision. Law firms supervised '97.
Q The 1998 survey, that was a survey that was used in connection with litigation in Massachusetts?
A That's correct.
Q So, really, just so I know, we're talking about four surveys, one in 1985, one in 191, one in 1997, and one in 1998?
A Yes.

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Q Am I correct that the Tobacco industry law firms funded three out of those four surveys?
A Yes.
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Q The 1997 and the 1998 surveys, just so we're clear, were commissioned to defend lawsuits against the industry which were unrelated to this case that's brought us here today?
A Yes.
Q Now I want to shift to a different topic. And there's an exhibit which is in evidence in this case, which is Exhibit 30862, and I think we actually have this up on a demonstrative, and I'm going to ask that we pull it up on the board here. This is an exhibit that is in evidence, and I want to ask you about this. This is a May 23, 1964 memorandum. Are you familiar with this memo?
A I've never seen the memo, but it's been mentioned by plaintiffs' attorneys in depositions, but they never showed it to me.
Q Let me show it to you. It actually has appeared in Law Review articles and things like that, which have analyzed your work; am I correct?
A I've never seen a copy of the memo.
Q You have not?
A No.
Q You are familiar with Professor Hanson's work?
A I don't believe he reproduced the memo in his article.
Q Take a look at it. I want to make sure that you have seen it.
(Pause.)
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Q It has redactions on it that we have put on at the direction of the court. Don't be misled in any way because things are blacked out.
(Pause.)
A I don't want to spend too much time.
Q You have seen it?
A I have the general idea, yes.
(Continued on next page.)
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CONTINUING CROSS-EXAMINATION
BY MR. BICKS:
Q You were aware, as this document indicates at the top here, that a decision was made in or about 1964 to proceed on

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a preliminary basis with a public opinion survey which it hoped would establish that there is a very high level of the public awareness concerning the health issue?
A No.
Q Of cigarette smoking?
A No.
Q Let me just say, when you met with lawyers who told us -- you told us that, in 1987?
A Yes.
Q Do I understand your testimony today this document that was before you now was not given to you?
A It's never been given to me.
Q At any of the meetings you've had with lawyers, this was never shown to you?
A That's correct.
Q If you see this memo as we go on, the second paragraph that is highlighted, it talks about if, for example, and I'm dropping down in that paragraph, starts out with "If Professors Berlo and Steiner," are you with me?
A No.
Q Do you know who they are?

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A I've heard of Steiner before.
Q He's somebody who does survey market research?
A A market person.
Q If you drop down, this document says: If for example, we were able to establish that the American consumer overestimates the risks of habitual smoking, the case forewarning or labeling would be weakened, you see that?
A I do.
Q I'm dropping down not to this next paragraph -- let's talk about it, the one that says "the question has been raised of possible adverse use of a survey. Specifically, should the results of the survey prove unfavorable, they could be subpoenaed"?
A Yes.
Q It says: In any event, "If the returns were unfavorable they could be destroyed and there would be no record in any office of the nature of the returns." Do you see that?
A Yes.
Q Then you drop down, it says: "In the attached draft questionnaire, we have tried to avoid that problem by avoiding unnecessary questions which might elicit answers harmful to us."
I want to ask you something. You had certain records from your 1991 survey, did you not?
A I misspoke earlier, indicating -- I turned over all the

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data; we turned over all the data but 1991. I kept all the survey results from my 1991 survey after I published it. Nobody requested it for five years. When I moved to Harvard the data didn't come with me, I threw away a lot of stuff.
Q Threw away the result of the survey?
A The main results were published so I moved on since nobody requested them up to that time.
Q The records that were destroyed contained results of questions that were different from other surveys that you've done; am I correct?
A I don't understand the question.
Q Let me ask you this. Do we have the opportunity to review those records if we wanted to?

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A Not if they don't exist, no.
Q Did you keep a permanent log of the results?
A No, I published the key empirical results in my book. That was my main summary of the results, just as other researchers have done.
Q I wanted to ask you a little bit about this document that is up here and the last sentence that says: "In the attached draft questionnaire, we dried to avoid that problem by avoiding unnecessary questions which might elicit answers harmful to us." Do you see that?
A I do.
Q Can you tell us how someone can revise a questionnaire to
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eliminate questions that might upset an otherwise favorable return?
A I don't know what question you could ask about smoking. My sense is that in the case of smoking risks, any fair way of asking the question is going to generate results like the kind I've got.
Q Do you think it's appropriate to revise a questionnaire to eliminate questions that are harmful?
A If you're trying to test hypothesis, you want to include all the questions that get at the truth, whether it harms your hypothesis or not.
Q This obviously is done in 1964. Let's just quickly jump to 1985 for a minute. Did you have any involvement in collecting the data for the 1985 survey?
A No, I did not.
Q You were actually given that data by lawyers from the tobacco companies; am I correct?
A I got it from Audits and Surveys. The lawyers gave me the questionnaire.
Q Would that be also true with respect to the 1997 survey?
A Yes, I got it from them as opposed to getting it directly.
Q Is it fair to say from 1985 and 1997, you have no actual firsthand knowledge of how the survey was developed or executed; is that fair?
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A (No response).
Q In other words you didn't do it?
A I didn't do it, but I discussed with the people at Audits and Surveys how the survey was administered, how the data were coded so I could do my analysis.
Q Just to be clear, you actually weren't the person actually doing the work?
A I wasn't doing the work up front.
Q With respect to this Exhibit 30862, I gather then since you tell us you've never seen it, I assume that means you've never seen the questions that are attached to it?
A That's right.
Q You've never, for example, looked at whether or not any of the questions that are attached to this 1964 survey are in any way similar to any of the questions that, for example, were in 1985 or any other surveys?
A That's correct.
Q I have prepared a demonstrative exhibit for the 1964 question that I would just like to pull up, if we can. This is actually one of the questions that is on this 1964 survey. You see that?
A I do.

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Q There is a question out of Exhibit 30862. The question is, just to get a rough idea of the degree of the risk, would you take a guess at this. Suppose 100 men in all started

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smoking in their late teens and smoked a pack a day from then on. About how many of them do you guess would get lung cancer? Then it says just a guess. You see that?

A I do.

Q Does this question at all look familiar to you?

A Well, it's different in a couple of ways, but the similarity is that each one has 100 as being the denominator for people to think about the risk.

Q Isn't it a fact this question with some rather minor word changes actually survives in each of the four surveys you've talked about on direct?

A We quibbled out what we mean by minor. Each asks about 100, that parallel is there.

Q Let's put up the demonstrative which actually shows the questions and how they've changed, if at all, over time. Are you with me?

A I am.

Q What's up at the top there is the question that was in the 1964 survey questionnaire we've talked about. You see that?

A I do.

Q Then when we go to 1985, that's the question number 3 in the survey that was done for the law firm in Ohio that you talked about that was then, I guess, given to you when you met with the lawyers in 1987?

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A That's correct.

Q This question, too, talks about 100, right, 100 people and then you see the way it ends at the end, probe. Just your best guess will do. Very similar, is it not, to question 15-B, talks about a guess. It's similar, is it not?

A This is standard survey research firm lingo, whether it's your best guess or your best estimate. I don't think that's a big deal.

Q Look at question 3-A, out of the 1991 survey. This is actually the survey that you did of 200 people in North Carolina you told us about?

A That's one of my questions, yes.

Q Just so we're clear, I think I've seen about what survived in terms of the underlying documents of that survey; am I correct of the 200 people that were surveyed 160 of the actual survey questionnaires were the ones that you discarded?

A No, none of the documents you received, handed over, pertain to any of the final surveys. What you have are preliminary pretests administered to my students, secretaries in the department, spouses of secretaries where we're trying to get a sense whether people could understand the wording of the question. What you have has nothing to do with my published results.

Q Let's make sure I understand this. Of the 200 people that were surveyed, do we have any of the underlying

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questionnaires that they filled out in your North Carolina survey?

A Some of the questionnaires are the same. None of those answers on the hard copies are part of my real sample.

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They're part of a preliminary retest.
Q What is it then you discarded?
A My full set of survey results.
Q You discarded the full set of survey results?
A The full set of survey results didn't make the move. They're in a different box, didn't make the move. I dug these out of another box I hadn't cleaned up.
Q He have let's then -- I'm looking at your 1991 question. This again talks about, among 100 cigarette smokers, how many of them do you think will die of lung cancer because they smoke, that's again very similar to the question in 1985, isn't it?
A We're comparing '97 and --
Q 1987, 1991?
A Die instead of get.
Q The change between 1985 and 1991 is get versus die, that's the change made?
A Yes.
Q You go to 1997, the same question out of 100 cigarette smokers, how many of you think you will develop lung cancer because they smoked, then you changed it to use the word to

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develop lung cancer?
A That's basically the same as get in 1985.
Q Then in 1998 the question was out of every one hundred cigarette smokers how many of them do you think will die from lung cancer because they smoke? That's just a very minor change from the 1997 question?
A I viewed it as the same as '91, get versus die could be important but it proved not to be.
Q When we went back to Exhibit 30862 which was this 1964 memorandum --
THE COURT: Is this chart in evidence?
MR. BICKS: A demonstrative.
THE COURT: Whose?
MR. BICKS: We should call it Viscusi 1, demonstrative of the survey questions.
THE COURT: Are you going to admit this?
MR. BICKS: Yes.
THE COURT: It's in evidence -- well, he already has -- call it Plaintiff Viscusi 1. He also has a series already.
(So marked.)
MR. BICKS: So we're clear, the title of this is five cigarette/lung cancer survey questions. It goes from 1964 to 1998.
THE COURT: It's in evidence.

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Q So we're clear, it's fair to say that the question that was asked in 1964 which was done with the purpose of showing a very high level of awareness concerning the health issue involving cigarette smoking -- I'm reading from this 1964 memo -- is similar, very very similar to the question that follows each of the surveys that are there; is that a fair statement?
A Subsequent questions are cleaner, but they are similar in that they all ask about population of 100.
Q While we have these up here, you used the word "guess." I want to ask you about that and ask you whether or not you agree with a statement that a good survey must be designed to ensure that respondents are simply not guessing or being asked

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to speculate.
A We use this terminology, if you ask people the question among 100 cigarette smokers, how many of them do you think will get lung cancer because they smoke, I don't know the exact answer. What you're trying to elicit from people is their estimate. If you're doing this in a telephone survey,, give me your best estimate or guess, you want to know what they think. This is not a quiz question where you want them to say I don't know the exact answer.
Q Let me ask you, do you agree with the statement that a good survey must be designed to ensure the respondents are simply not guessing?
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A If guessing means giving your subjective answer, I think that's fine. If they're making up something up as they go along, it's not fine. It depends on what we're doing.
Q Are you familiar with an article by Bruce Keller, David Bernstein, Peter Johnson, Surveys in False Advertising Cases?
A No.
Q Let me ask you this. Do you agree with a statement that in a good survey earlier questions should neither provide nor suggest the answers to later questions?
A Usually yes, unless you're using the survey itself to educate people which we've done for the Environmental Protection Agency. We may be trying to educate people regarding things we want people to think about later on.
Q Do you remember in your 1985, 1991 and 1997 surveys, '85, '91, '97, whether this question that is up here on the board was preceded with a question that said cigarette smoking will most likely shorten a person's life or cigarette smoking is dangerous to a person's health, words or phrases of that substance?
A For three of the surveys, there were four statements, two of which were like that, two of which denied those risks. In 1998 we rotated it. We took those statements, put them after the risk perception question and it didn't affect the results. Our conclusion was that that order was not important.
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Q What about with respect to 1985?
A As I indicated, those questions were before the risk questions, but there were four statements, not just two.
Q I'm reading from your book, Smoking, Making the Risky Decision, right?
A That's right.
Q You actually have somebody on the cover of this book, right?
A I do.
Q What's the name of that person?
A Max Beckman (ph).
Q Was he a smoker?
A He was a smoker.
Q Do you know actually what happened to his health because of that.
A I think he died of respiratory disease or lung cancer or something.
Q This is a person you put on the cover of your book, actually has a smoking jacket on, tuxedo, smoking a cigarette even though my copies -- this is just a copy, right; is that right?
A Photocopy, yes.

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Q Let's go back again to this question, I asked you, my original question was going to the point earlier questions should neither provide or suggest an answer to a question; you

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remember that, we were talking about that? You agreed with me that's not a way a survey should be done, correct?
A Unless there's a reason why you want to do it, but yes, in general, for this survey you wouldn't want biased answers.
Q Let's go through your 1985 -- this is the survey done, again, for the law firm for the tobacco industry. Question 3, that's what we've got there, among 100 cigarette smokers, how many of them do you think will get lung cancer? Do you remember what question two was?
A There were four statements asking you have you heard any of the following four statements. Do you want to read the four statements?
Q Do you know them?
A I didn't memorize them, no.
Q The four statements were cigarette smoking will most likely shorten a person's life. Cigarette smoking is dangerous to a person's health. Cigarette smoke is bad for a person's health but not dangerous. Cigarette smoking is not bad for a person's health; is that right?
A That's right.
Q Your question was among 100 cigarette smokers, how many of them do you think will get lung cancer because they smoke, right?
A Yes.
Q What about with respect to the 1985 survey, did you have

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similar introductory questions to the ones I just read?
A Those were the ones from the '85 survey.
Q The same ones?
A Those were the ones.
Q I'm in 1991 now, 1991 survey. What were the questions that directly preceded the one about 100 cigarette smokers, how many of them do you think will die of lung cancer because they smoked?
A I believe there's a similar format.
Q What about with respect to 1997?
A Same thing.
Q Let me ask you if you agree with this statement that it talks about objectivity of a survey. It says objectivity can be compromised where a survey is conducted in anticipation of litigation and by persons connected with the parties or for counsel are aware of its purposes in the litigation. Do you agree with that statement?
A In any circumstance it's possible to have a survey that is not objective, not just that circumstance.
Q Do you agree with that statement?
A I don't know why I would disagree with it. It's possible to compromise objectivity all the time.
Q I'm sorry, do you agree or not? I didn't follow?
A Yes, it's always possible to compromise objectivity, including litigation.

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Q As I read that statement, do you know who made that statement?
A No.
Q Is it fair to say --

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A Perhaps me.
Q No.
A No?
Q Not you.
Which of these surveys here were prepared in support of litigation?
A All but the '91.
Q According to the 1964 memorandum I've shown you, the individuals who drafted this sought to avoid questions that would elicit harmful answers to the tobacco industry, is that a fair reading of what we looked at?
A I don't know what the drafters actually did.
Q That's what it says, right? You read it.
A They said they could design such a survey. I don't know if they encountered any bad questions they didn't like.
Q In the attached draft questionnaire, we have tried to avoid that problem by avoiding unnecessary questions which might elicit answers harmful to us. Did you hear what I said, what I read there?
A I did. I didn't know what those questions would be.
Q Have you ever tested in any of your risk assessment work

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on smoking whether people have a belief about whether nicotine or cigarette smoking is addictive?
A I've used data from the current population survey administered by the U.S. Department of Commerce to analyze that issue.
Q Do your surveys ask questions about addiction?
A My surveys don't.
Q When you were asked in your deposition in Minnesota, have you ever tested in any of your risk assessment work on smoking whether people have a belief, the public does, about whether nicotine or cigarette smoking is addictive, you answered I have not?
A I've done that since then, but as of then. I have not.
Q As of 1997 you have not?
A That's correct.
Q Have you seen studies which indicate that the risk of addiction is underestimated by people -- by new smokers?
A No, I've seen claims to that effect but I've never seen any convincing evidence to that effect.
Q Have your surveys been criticized for failing to consider the ramifications of addiction?
A Not by any scientist as far as I know.
Q Do you know who Paul Slovic is?
A He's an expert who served for the Plaintiffs in some of these cases.

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Q Is he an expert in the area of surveys?
A He's a behavioralist who runs surveys. I disagree with his methodology and we have a battle going on survey methodology.
Q Let me ask you if he made the following statement. But the evidence of smokers short term perspectives and underestimation of the grip of addiction suggests that experimental and effective forces are leading many young people to make smoking decisions that they later regard as mistakes. Are you familiar with that statement?
A Yes, I don't think he mentioned my research in that statement, though.
Q Let's go to the next statement. Viscusi has placed great

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weight in the validity of his quantitative questions about smoking risk perceptions, however, there are behavioral reasons to be suspicious about the reliability of answers to his questions about the relative frequency of lung cancer among 100 smokers. You remember reading that comment by Mr. Slovic?

MR. WAGNER: We object, hearsay. Also, could we have a source of this?

THE COURT: Give the source, please.

MR. BICKS: From Paul Slovic, Do Cigarette Smokers Know the Risk in Smoking Risk Perception Policy, Chapter XI.

THE COURT: A public published work?

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MR. WAGNER: I don't believe it is.

THE WITNESS: It's not.

MR. BICKS: Submitted for publication. It's my understanding it is going to be published. This is a very recent article.

THE COURT: An article or --

MR. BICKS: A chapter.

THE COURT: Show it to the witness, ask him if he agrees with the statement.

MR. BICKS: It indicates on the cover it's prepared for the book, Smoking Risk Perception and Policy, P. Slovic, Sage Publications. It's WZO-01534.

THE COURT: That's the document number?

MR. BICKS: Yes.

Q I'm showing you the statements at page 17 and 18 that I read and then the statements at page 21 with respect to your work. My question is just going to be, do you agree or disagree with what Mr. Slovic has said?

(Pause.)

A I disagree.

Q Thank you.

Let me follow up on a question that the judge asked you. It goes to the timing of your surveys. Again, so we're clear, the first survey that you talked about, again the one that was done and handed to you in 1987 done for this law firm

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in Chicago, that was done in 1985, correct?

A The '85 survey was a Cleveland offer.

Q None of these surveys that you rely on attempted to measure the risk perceptions of the public in the 1950s, 1960s, 1970s up until the mid-1980's, correct?

A That's correct.

Q Knowledge was certainly not the same in the '50s, '60s or '70s as it is today. For example, is it, with respect to cigarettes? Would you agree with that?

A I think it was pretty well established that cigarettes were very risky long before today, but we're continuing to learn new things; for example, environmental tobacco smoke. We're continuing to add to knowledge, but the message smoking is dangerous has been out there for a while.

Q You testified in Ohio when asked that question. Your answer was our knowledge has improved. Is that a fair statement?

A It has improved.

Q Have you made any attempt to compare information that's available, for example, to consumers today and compare that to the information that was available to people in the 1950s, 1960s or 1970s?

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A I've reviewed all the Surgeon General's reports, Gallup polls over that period of time. I've analyzed smoking trends. I've analyzed the kinds of cigarettes people smoke as

result of the information. So, yes, I have reviewed manifestations that would capture the effect of information.
Q Let me show you what you testified to when you testified under oath in Ohio when asked that same question.
"QUESTION: Let me ask you this: Did you try to make an attempt to determine what was the information available to consumers, including the people that might be in your surveys, in 1997 and '98 and compare them to the information that was available to people back in the 1950s, '60s or 70s?
"ANSWER: Well, I don't know what people had back then, so I don't see how I could do a comparison."
True testimony under oath?
A I've done more since then to review the data available at that time, statements by public health officials back in the '50s and other evidence.
Q This is since you testified under oath in March of 1999?
A That's correct.
Q In connection -- let's make sure we understand. Do you know when the average claimant to the Trust started smoking?
A I don't know the exact date, but perhaps in the 1940s.
Q That's pretty close, 1943. You knew I was going to ask you that question. 1943, right?
A I didn't know you would ask the question. If they're born around 1925 or so, I thought they would start smoking

around the 1940s.
Q If they started smoking in 1943, you know from the Surgeon General that at least in 1985 that blue collar smokers on average start smoking at about what, 16 and a half?
A If that's what you say he says, that's what I'll go with.
Q If people are born in 1943 and you add 16 to that, 16 and a half, that puts us about 1959?
A That's right.
Q Again, so we're clear, have you done a comparison of the information that was available, people just hypothetically in 1959 as compared to the surveys that you talked about on direct, the 1985 to 1997 surveys?
A I have reviewed Gallup polls from the 1950s including Gallup poll from 1957 indicating that people were aware of the 1951 cancer report regarding smoking. I also know that smoke risk information increased in the 1960s.
Q We'll talk a little bit about some of those surveys when we come back from lunch. Let me ask you, have you ever looked at internal tobacco company documents to determine what they were saying, the tobacco companies, about people's awareness, for example, on the question of nicotine?
A No.
Q Let me show you a 1972 -- let me back up for a minute. No documents have been provided to you by the tobacco companies that bear on what they were saying about the

question of awareness?
A That's correct.
Q What you talked about really today, in fairness to you, you've talked about the four surveys that we talked about,

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right, and then you talked about some other surveys, three other surveys on the question that deal with tobacco/asbestos issues?
A That's right.
Q You haven't talked about what the tobacco companies internally were saying about awareness issues, right?
A Yes, that's correct.
Q This is Exhibit 9937 which is an October 30th, 1972 RJR Reynolds memorandum to Mr. T. E. Sandefur?
THE COURT: Is that in evidence?
MR. BICKS: Yes, your Honor.
Q Do you have that in front of you?
A Really murky. Can I get up and read that one?
Q Are you having a hard time seeing it?
A Something is wrong with my screen.
Q It says the groups showed what other research has shown -- there is low awareness of tar and nicotine numbers and no comprehension of what they mean. Do you see that?
A This is what date?
MR. BICKS: 1972.
Q You see that?
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A I can't see it here, but I heard it.
Q If you can't see it, then we're not doing what we need to have (handing).
A I see it.
Q This is a document you have not seen before?
A That's correct.
Q You're not, as you sit here today, going to dispute the conclusion of this document, are you?
A No.
Q Would you assume the tobacco companies have expertise on what people know?
A Not necessarily. I think they sell products but unless they ran a survey to figure out what people know, I don't know what they would know. So, I don't know what they use to get that answer.
Q Let me move forward a little bit in time. Let me just show you a 1978 memorandum that is from H.D. Steel to M.J. McHugh (ph), subject, future consumer reaction to nicotine. I'll show it to you --
THE COURT: This has a number?
MR. BICKS: 18107 and it is in evidence, your Honor.
Q What I'm going to ask you about is the highlighted portion I'm showing you here because it's hard to see because of the copy that we have.
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A I don't understand the last word, cigarette?
Q Cigarette, that's a hard one to understand. You know what that is? Poison.
A Poison?
Q Poison, yes. Oh, you couldn't read the last word. Packs.
A Packs.
Q It's very hard to read.
(Pause.)
MR. BICKS: I've been told to hit the focus button.
Q Very few consumers are aware of the effects of nicotine, i.e., its addictive nature and that nicotine is a poison. Most smokers view nicotine as the number that follows the tar

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figure on cigarette packs.
Did I read that correctly?
A I think so, yes.
Q Again, so we're clear, as you've come here to talk to us, nobody provided this to you?
A No.
THE COURT: We have a problem. When do you have to appear at this other --
THE WITNESS: Monday.
THE COURT: I thought it was today. They're expecting you today?
MR. WAGNER: We were informed late last night while
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they don't sit on Fridays, Professor Viscusi is there on Monday, that's fine. We're trying to get it all in today. That's what I was told late last night.
THE COURT: I was told to push this so you would be available this afternoon. Your understanding is that other trial won't require the professor?
MR. WAGNER: Wouldn't require him today. That's what I was told late last night.
THE COURT: We'll assume that's true. Would you mind having somebody check with the judge? I don't want him to think I ignored our conversation of last night.
We can all take a leisurely hour. Be back at 2:00 o'clock, please.
I want to ask a question without the jury present.
(Jury leaves courtroom.)
THE COURT: Did that 1964 reference result in a survey being conducted?
MR. BICKS: I don't think we know the answer. I think --
MR. WESTBROOK: Not that we've ever seen.
THE COURT: We don't have any figures for 1964?
MR. LOMBARDI: I think you would be able to see a document that shows the survey was never conducted.
THE COURT: Thank you very much.
(Luncheon recess; continued on next page.)
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A F T E R N O O N S E S S I O N
(The following occurred in the absence of the jury.).
THE COURT: The witness take the stand, please.
(Jury present.)
MR. WAGNER: Your Honor, Professor Viscusi is in the washroom. It might be a second.
THE COURT: All right. Sit down, everyone.
(Pause.)
THE COURT: Remember, we are not meeting tomorrow. I understand that one of you has an important medical appointment on the 18th. I hope we may be finished by then, but if not, we will be off on the 18th. But Monday we will start at 10:00 o'clock promptly.
The witness will be in in a moment.
I have been able to procure for the trial a regular pointer.
MR. BICKS: What am I to do with this, Judge?
THE COURT: Keep it there and you can use it to point. Just to point at things.
MR. WAGNER: Your Honor, you have two bits of information. One is this might be a minute.

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THE COURT: Okay.
MR. WAGNER: The other is that we have received word that he is not needed in state court until 9:30 Monday
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morning. We were able to confirm that.
THE COURT: That's fine. Thank you very much. So there is no pressure.
MR. WAGNER: I don't know if they've --
(Pause.)
MR. WAGNER: He is on his way.
(Witness present.)
EXAMINATION CONTINUES
BY MR. BICKS:
Q Good afternoon, Professor Viscusi.
Just a couple of quick cleanup items from some things that came up today.
Tell us on your 1985 survey, what was the confidence interval on the number that you came up with?
A Like point oh two, so standard error, so the confidence interval would be point oh four. Either way.
Q Let me show you some testimony you gave on direct, make sure I -- I understand it?
THE COURT: What is this from?
MR. BICKS: This is from this morning, page 17.
Q Here you are talking about your 1985 survey. Can you see that, by the way, on your screen? We need to fix it?
A It's good.
Q Great.
You were talking about the question for the 1985
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survey. You said rather than asking how many of hundred smokers, I asked how many out of a thousand or how many out of the two million smokers in North Carolina. People answered 10 percent, 20 percent.
You see what I am referring to there?
A That's correct.
Q Were you actually asking people the question of out of a thousand or out of two million how many people would get lung cancer?
A Yes.
Q And are you suggesting thus when you increase the number to, for example, a thousand, you got less than what was it about 40 percent that you were testifying to on direct out of a hundred?
A No. I am not suggesting that. What I am suggesting is that people answer the question in percentage terms rather than giving a number.
Q For example, if -- if you asked somebody how many out of eighteen million would get lung cancer, are you suggesting it's going to be the same percentage as the question if posed how many out of a hundred?
A Yes. Because people start answering in percentage terms.
Q Okay. Now, so there is no doubt about it, this is Exhibit 30862, which is this 1964 memo and it says here, in
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any event, if the returns were unfavorable they could be destroyed and there would be no record in any office of the nature of the returns.
Based on your experience, this is the prospect of

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this is -- is reprehensible, is it not? The prospect of destroying unfavorable returns in a survey?
A If you are trying to test hypothesis you wouldn't want to destroy it, yes. You'd want to get at the truth.
Q Okay. Now, we were talking about the question of awareness of nicotine and addiction and things like that before we broke.
Let me show you Plaintiff's Exhibit 4495, which the defendants have indicated they have no objection to coming into evidence.
THE COURT: All right. Admitted.
(Marked.)
Q This is a February 22, 1979 memo from Doctor Wakeham to Mr. Seligman. Can you see that?
A Yes.
Q Okay. I have blacked out a word there and that's why that black mark is there.
You see the paragraph that I have highlighted? It says, people obviously take up the habit for psychosocial reasons long before they become aware, either consciously or unconsciously, of the nicotine in psychopharmacology. You see

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that?
A I do.
Q Again, no internal documents were made available to you in connection with your coming to chat with us today?
A That's correct.
MR. KRAUS: Your Honor, with respect to the next document that Mr. Bicks wants to use, it is a multipaged document. We haven't had a chance to review all of it.
THE COURT: What part do you want to use?
MR. BICKS: I am going to want to talk about one page, Your Honor. I have shown him the page.
THE COURT: Let me look at the page, please.
MR. BICKS: What's that?
THE COURT: Let me look at the page, please.
Does this document have a number?
MR. BICKS: This is 9510. It is an RJ Reynolds consumer research report. That's the page I want to ask him about.
THE COURT: You can ask him about it. That page is in evidence.
MR. BICKS: Thank you, Your Honor.
(Marked.)
THE COURT: Is it numbered?
MR. BICKS: Yes. This is page six.
Q Mr. Viscusi, I am going to put on the screen here a May

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1970 consumer research report produced by the Reynolds Tobacco Company. I take it, as I show this to you, you have not seen this before?
A That's correct.
Q Okay. This is a summary table section one smoker's opinion about smoking and health.
THE COURT: What date is this?
MR. BICKS: It is May 20, 1970.
MR. BICKS: I apologies because it is cut off a little bit on the side but I think that -- I think that we can read it.
THE COURT: All right.
Q I am focusing on the second line down. It says,

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cigarette smoking in moderation is safe. Do you see that?
A I do.
Q Then true is 41 percent. Then false is 29. Then 30 percent answer they don't know, or no answer.
Do you see that?
A That's right.
Q That suggests here that 71 percent thought cigarette smoking in moderation was safe or they didn't know the answer to that?
A That's what these data say, yes.
Q Okay. Based on what you know about the actual risks of cigarette smoking, is that consistent with the actual risks?
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A I would avoid qualitative terms like safe. The question before, hazardous, simply saying smoking is hazardous. That's why I favor numerical scales.
Q If you ask people whether they think something is hazardous or whether they think it is safe, you don't think words like "safe" and "hazardous" are words that lend themselves to common understanding and precise information that's useful to us when they respond to questions with those words in them?
A If you are smoking in moderation like in this question, I don't know how much you have to do to be really risky or unsafe.
Q Okay. Let's look at the line down which says -- it says smoking is safe as long as you don't inhale.
Thirty percent of people say true.
Is that true, by the way, smoking is safe if you don't inhale?
A I'd reword it, does it pose any significant risk. My guess is that smoking probably does not pose a substantial risk if you don't inhale. I am not sure what you are doing with the cigarette if you are not inhaling.
Q Let me ask you then, you are on the stand and I said to you, is smoking safe if you do not inhale?
A So if I put it in my mouth and don't breathe it in at all, it's only environmental tobacco smoke. Which I don't
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think poses a huge risk. My tendency would be probably to say yes. It's probably not a big risk.
Q So you would say yes, it is safe if you don't inhale?
A I generally prefer questions that define risks on a meaningful scale. So I'd know what "safe" is. If "safe" is a risk of less than one in a hundred, then it's certainly safe.
Q You can only answer questions if it's within the contexts of one in a hundred?
A I'd say, questions that don't have a probability scale with a well defined quantitative metric do not have right or wrong answers.
Q This indicates to you that 61 percent of people either thought smoking was safe as long as you don't inhale or didn't know the answer, right?
A Thirty percent said true. Thirty-one percent said didn't know the answer. Thirty-nine percent said false.
Q Thirty and thirty-one is sixty-one, right?
A Right. But not knowing is not the same as yes.
Q Is it correct that your surveys do not elicit information on how long people expect to smoke when they start?
A That's correct.
Q Okay. Are you aware of survey evidence that says that

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many young smokers don't think they will smoke for more than a few years?
A I have seen some surveys that ask people how long they
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expect to smoke and some younger smokers indicate a short period of time, yes.
Q Could this suggest to you that smokers feel that smoking is safe in the short term but potentially harmful in the long-term?
A No. In fact, my evidence contradicts that in terms of evidence on risk perception of youths.
Q But you are aware actually that there is survey evidence that says many young smokers don't think they will smoke for more than a few years?
A When people -- young smokers are asked the question, do you think you'll smoke more than five years, a lot of them do not indicate yes. That's correct.
Q You are familiar with the idea that people think they are going to be able to stop smoking, correct?
A I am not sure exactly -- the exact wording of the survey question.
Q Okay. Let me just show you then your testimony given on March 11, 1999 in Ohio.
Question: You are familiar with the idea that people think they are going to be able to stop smoking, correct?
Answer: Some people think they can quit.
Is that what you said?
A I agree, that many people have quit.
Q Many people haven't, right?
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A As many people have quit as who now smoke.
Q What you have done in your survey is you have compared -- what you compared was the actual perception of a lifetime smoker and then put up -- and then compared that to the risks of a lifetime smoker, correct?
A That's correct.
Q Okay. Now, does the phrase "tobacco asbestos synergy" appear in any of the polls that you have talked about, the four polls that you have written about and discussed a fair amount?
A Only the Roper poll. Not in any of my polls.
Q The statistical phrase "tobacco asbestos synergy" appears in the Roper poll?
A I guess the verbal equivalents of that, but that sort of -- my polls did not include anything relating to whether those words or different words.
Q Okay. In fact, there are no questions at all in any of the surveys that you were involved in that even touch on synergy, is that correct?
A That's correct.
Q And again, the four surveys I am talking about, I am talking about the three done with the tobacco industry and then the one that you did in North Carolina of the two hundred people in North Carolina. Are you with me?
A Yes.
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Q Okay. Did you make any effort with respect to those four polls to identify asbestos exposed individuals?
A No.
Q Have you performed -- in connection with those four

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polls, have you performed or did you ever perform a statistical test to determine whether the samples in those polls are representative of the Manville trust claimant population?
A I've done detailed statistical analyses across broad demographic groups. I have looked at them by blue collar white collar status, found no difference. I have looked at it by educational group and found no difference. I have looked at it by gender. So that because these results are stable across broad segments of society, I didn't break out the specific population here.
Q Okay. So the answer is that you did not do a statistical test to determine whether your samples are representative of the Manville trust claimant population. I am talking about the four surveys that you were involved with.
A I have verified that the results are robust according to occupation and education, which means that any projection done would hold up.
Q Did the 1985 survey that was done for the law firm in Ohio, was that survey dealing with blue collar workers?
A It dealt with everybody.

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Q Did it specifically focus on and break out blue collar workers?
A No.
Q Did your 1991 survey, the two hundred people in North Carolina, did that break out as a separate group blue collar workers?
A No.
Q If you had wanted to in connection with those four surveys, could you have designed a survey directed to asbestos exposed individuals and -- and designed to measure their understanding of the synergistic effects of tobacco and asbestos?
A I think I sort of missed the boat in terms of some of the timing, so in 1998 we probably would have a hard time finding currently exposed workers to asbestos.
Q When you say you missed the boat, what do you mean you missed the boat?
A The bigger asbestos exposure occurred before 1998. So you'd want to get people at the time they were exposed.
Q When did the biggest asbestos exposure occur?
A It was a large exposure during the shipyards, during World War II, and thereafter, in the advent of government regulation of asbestos by occupational safety and health administration and the Environmental Protection Agency, asbestos exposures have substantially diminished.

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Q So again we are clear, the first poll that you even had any involvement relating to tobacco issues was the poll that you were given in 1987 when you were out in Ohio meeting with lawyers for the tobacco companies?
A Right. The '85 poll I got in '87.
Q Now, can we put up Hanson 28, demonstrative 28?
This is the 1980 Roper poll, a demonstrative exhibit that we used with Professor Hanson. You discussed the 1980 Roper poll on direct?
A I did.
Q If we take this poll as accurate, how many -- how many in terms of a percentage does this indicate either don't know if it's true, looking up at the question, think it's not true or

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no, it's not true?
A Well, if you include the don't know's, then you are maybe 32 percent.
Q Okay. So that would say here that -- rough numbers, essentially a third of this group don't know, think it's not true, no, it's not true, that if you smoke and have worked with asbestos, you are at least fifty times more likely to get lung cancer than if you have done neither?
A That's what this says.
Q Okay. This question as you look at it does not actually distinguish, does it, between the effects of asbestos as compared to the effects of tobacco, does it?
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A No. It takes up the total effects of both exposures.
Q Let's just say, for example, you are familiar with some of the data on the asbestos awareness campaign?
A I have seen some publications regarding that.
Q You are aware that that data shows and I appreciate you question the methodology that's reported in those three Gallop polls, but those polls showed, do they not, that people had more of an awareness of asbestos problems but as interpreted by Gallop in the three polls, but a significant underappreciation of how tobacco and asbestos interact?
A That's not the way I interpret the NCI polls.
Q That's how the authors of the polls interpreted it. We can talk about the differences in interpretation. That's the way they have interpreted it, is that correct?
A I just looked at the raw numbers. I know the Surgeon General didn't interpret it that way.
Q Are you familiar, actually, you pointed out that this was included in the 1989 Surgeon General's report. Do you remember that?
A Yes.
Q Do you actually remember in the Surgeon General's report what that concluded about people's perceptions of the risk of smoking?
A I am not sure what you are driving at.
Q Okay. Let me show you, do you recall that this Surgeon
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General's report did a fair amount of analysis on awareness of smoking?
A I did review a lot of the Gallop poll evidence, for example.
Q Okay. You are aware, are you not, that -- have you read the tobacco company's web cites?
A I have gone to them but I haven't read the entire web cite, no.
Q Are you aware or has it been pointed out to you that the tobacco company web cites refer us to the Surgeon General's reports?
A I do know that.
Q Do you know whether or not on the web cites they refer us to your analysis of awareness of risk perception?
A I don't know if they give me any plugs. I've never checked.
Q Do you recall what the Surgeon General concluded in 1989 about awareness of risk of smoking?
A I don't remember what the report said.
Q Okay. This is a page of the 1989 Surgeon General's report, 50171.
THE COURT: What page is this?

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MR. BICKS: This is page 244.
THE COURT: All right.
Q Can you see that on your screen?
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A I can.
Q I have highlighted some paragraphs for us.
You obviously were familiar with these conclusions?
A I have read it about a decade ago, yes.
Q Is that the last time you looked at it?
A I have looked at parts of this report but I don't think I have read this page for a long time.
Q Okay. I am looking at paragraph four, where it says, it starts out, it says despite these impressive gains in public knowledge, substantial numbers of smokers are still unaware of or do not accept important health risks of smoking. For example, the proportions of smokers in 1986 who did not believe that smoking increases the risk of developing lung cancer, heart disease, chronic bronchitis and emphysema, were 15 percent, 29 percent, 27 percent, and 15 percent, respectively. These percentages corresponded to between eight and fifteen adult smokers in the United States.
Did I read that correctly?
A Million adult smokers.
Q Yes. Did I read that?
A Yes. I think you left out million.
Q Oh. I'm sorry.
Paragraph six, some smokers today do not recognize their own personal risk from smoking or they minimize it. In 1986, only 18 percent of smokers were very concerned about the
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effects of smoking on their health, and 24 percent were not at all concerned.
That's what the Surgeon General concludes here. Am I correct?
A Yes.
Q It goes on to say, that in 1986, about half of current smokers and 40 percent of never smokers incorrectly believed that a person would have to smoke ten or more cigarettes per day before it would affect his or her health.
Is that what the Surgeon General concluded?
A Yes.
Q And then eight, it says a national survey conducted in 1983 by Louis Harris and Associates found that the public underestimates the health risks of smoking compared with many other health risks.
Do you see that?
A I do.
Q And then paragraph nine, many smokers underestimate the population impact of smoking. In 1987, 28 percent of smokers and 16 percent of the general population disagreed with the statement, most deaths from lung cancer are caused by cigarette smoking.
Do you see that?
A I do.
Q Again, these are the conclusions of the Surgeon General
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of the United States?
A They are in his report, yes.
Q Okay. Let me ask you something about this phrase, most deaths from lung cancer are caused by cigarette smoking. In

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any of your surveys, did you ask that question to anybody?
A No.
Q And how many deaths are there as a consequence of lung cancer?
A I don't know, there is over four hundred thousand total deaths due to smoking and if lung cancer accounts for half to a third of those, a hundred thousand to two hundred thousand deaths.
(Continued on the next page.)

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BY MR. BICKS:
Q I'm sorry. What was the number?
A Maybe 100,000 deaths.
Q Let me just ask you this: You were talking about the difference between peer-reviewed and law review publications on direct. Do you remember that?
A Yes.
Q You have actually published in law reviews; correct?
A In addition to my 200 peer-reviewed articles, yes.
Q You have published in the Duke Law Review; right?
A Yes.
Q Do you remember saying that there are 110,000 lung-cancer deaths per year, five percent of which are believed to be due to smoking?
A I don't recall those exact words, but it seems to be similar to the answer I just gave.
Q So, that would mean that out of 110,000 lung-cancer deaths, over 93,000 are caused by smoking, if I did my math right?
A If that's what those numbers say.
Q And the Surgeon General says here that in 1987, twenty-eight percent of smokers and sixteen percent of the general population disagreed with the statement most deaths from lung cancer are caused by cigarette smoking; you're familiar with that?
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A You just read it, and I don't deny that he said that.
Q Let me ask if we can go back to the Roper poll, which was Hanson 28. Are you familiar with the criticisms that have been raised by various scholars, of questions which ask people to express risk estimates in numerical fashion like this?
A You're reading from Professor Hanson's article, I take it?
Q How did you know?
A I saw it when you picked it up.
Q You're exactly right. Let me quote: "There is also growing evidence that people, particularly smokers, have considerable difficulty expressing their risk estimates numerically."

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Are you familiar with that concept?
A No, I don't believe it. I think that's his claim, but I don't believe it.
Q Then, you disagree, again, with Isaac Lipkus, a risk-communication expert at the Duke Comprehensive Cancer Center?
A I was at Duke for ten years. I held a endowed chair. I never even met Isaac Lipkus.
Q The judge asked you about this. Let me follow up on this, this question of optimism bias. You are familiar with that concept?
A I'm familiar with that hypothesis, yes.

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Q And did you write, in the Supreme Court Economic Review, that "Even if smokers are aware of the risks associated with smoking, these risk perceptions may not affect smoking decisions. Individuals might, for example, not fully perceive the consequences of the adverse health effects of smoking for their welfare." Did you write that?
A That was a hypothesis that I then tested, yes.
Q So, would you agree that in order for a smoker to appreciate the health risks of smoking, the smoker has to believe that those risks are the same for him or her?
A Well, or that they are at least as big for him or her.
Q And are you aware of conclusions -- I showed you the Surgeon General's report of 1989 -- are you familiar with the 1981 FTC report?
A Yes, I am.
Q Okay. This is Exhibit 50220. This is a page out of the 1981 FTC report, a document you're familiar with?
A Yes.
MR. BICKS: Your Honor, I would move this into evidence.
THE COURT: 522540?
MR. BICKS: Yes.
MR. WAGNER: The page, or the whole report?
MR. BICKS: At this moment, 11. We'll move the whole report in.

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MR. BERNICK: Your Honor already ruled the whole report does not come in.
THE COURT: What portions?
MR. BICKS: Page 11.
THE COURT: Page 11 is the only page in.
(So marked.)
BY MR. BICKS:
Q This is page 11 out of the FTC report, and it says: "Finally, the survey data indicates that a large number of people do not believe that they will personally suffer the health consequences of smoking. Thus, although the medical evidence clearly indicates that smoking only a few cigarettes a day can be harmful, nearly one-third of those polled and forty percent of smokers polled believed that only heavy smoking is dangerous."
Are you familiar with that?
A Yes. Just having read it, yes.
Q Did you ever ask smokers, in the surveys that you conducted, whether or not they believe that they themselves would develop and die from lung cancer?
A No.
Q Indeed, you've never cited the concept of optimism bias

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in any of your work?
A I've criticized it in my work, and I've tested it for the U.S. Environmental Protection Agency.
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Q But the Surgeon General has, in fact, suggested that asking a question that very way, to elicit smokers' beliefs regarding their own personal risk, might yield different information than other standard polling techniques? Are you familiar with that?
A No. I would like to see the statement.
Q This is, again, out of the 1989 Surgeon General's report.
THE COURT: Page?
MR. BICKS: Page 204.
THE COURT: Admitted.
(So marked.)
MR. BICKS: It's Exhibit 50171.
BY MR. BICKS:
Q "However, nonsmokers were asked to respond to the question, implying that the wording may not be understood by some respondents as referring to truly personalized health risks. Wording such as: "Do you think that your cigarette smoking is or is not harmful to your health?" might elicit a different response.
Are you aware of that?
A This is a 1990 Gallup poll question. I know the answer to it. Ninety-six percent of the smokers said, yes, it has harmed their health. So, yes I'm aware of it.
Q You're saying that the Surgeon General, that when the
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Surgeon General says it, it's going to yield a different response. Did it yield a different response?
A Ninety-six percent of all smokers said, yes, I think my cigarette smoking is harmful to my health. It was tested the next year.
Q Okay. Have you been criticized in peer-review journals for not testing the risks faced by an individual smoker to him or herself?
A Only by the plaintiffs' expert, Paul Slovin, to the best of my knowledge.
Q What about Michael Schoenbaum?
A I know he's written a paper that cited me. I'm not sure exactly what he said.
Q This is Exhibit 76290.0043, which is a 1997 article in the American Journal of Public Health. This is a peer-review, respected journal?
A I know the article.
Q Okay.
MR. BICKS: Your Honor, I would move this into evidence.
THE COURT: All right. What number?
MR. BICKS: 76290.004 C.
THE COURT: Admitted.
MR. WAGNER: Your Honor, I was under the impression we were not admitting the journal in evidence.
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THE COURT: May I see it?
THE COURT: This is from what paper?
MR. BICKS: I can't remember it, off the top of my head, your Honor. It's indicated on the bottom there.

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THE COURT: American Journal of Public Health.
The witness will have to recognize it as a learned journal.
BY MR. BICKS:
Q This is a learned journal --
A It's a real journal, yes.
Q It's a real journal. Okay.
THE COURT: Admitted, only those portions quoted.
(So marked.)
BY MR. BICKS:
Q "None of Viscusi's questions gauge individuals' perceptions of years of life lost when one gets lung cancer, or years of disability. Second, and perhaps more critically, Viscusi asked about the risks of hypothetical smokers, not the risks faced by the individual smoker, him or herself; smokers may believe that smoking poses greater risks to others than to themselves."
You're familiar with this criticism of your work in this peer-review journal?
A Do you want me to comment on it? Yes, I'm familiar.
Q I'm asking whether you're familiar with it?

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A I've seen it, yes.
Q Without asking you to comment, I know you are going to say that you disagree with this criticism of your work?
A Well, do you want me to comment? Briefly, the first comment only pertains to the 1985 survey. The life expectancy should be addressed with the '91, '97 and '98 surveys. The other comment is a hypothesis I disagree with, and I have written a paper responding to Professor Schoenbaum.
Q Now, I want to ask you a little bit about your book "Making the risky decision." Did I get the title right?
A "Smoking," --
Q "Smoking, making the risky decision"?
A Right.
Q In this book, you do a fair amount of discussion of the 1985 poll that was undertaken for the tobacco law firm in Ohio?
A Yes.
Q Let me show you Exhibit 1105, and let me just ask you, -- we had put up a Roper poll -- are you familiar with the relationship between the tobacco companies and the Roper polling organization?
A No.
Q Were you aware that the Roper polling organization had a long-standing relationship with the tobacco companies, and did a lot of polling work for the tobacco companies?

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A I assume they do lots of work for lots of people, because they are a big outfit. Since I had worked with audits and surveys before, I didn't know that Roper had a special relationship.
Q This is a 1972 memorandum from Fred Panzer to Horace Kornegay, and it talks about the Roper poll.
Do you see that?
A Yes.
Q And there's a debate in here about whether or not a survey should go forward, and I want to show you the scenario for Action Points 4 and 5.
4 is: "Conduct the full-scale survey.
"And if the results are favorable, release them as a

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book in both hardcover and paperback version, hopefully published by a legitimate house."

Do you see that?

A I do.

Q Now, while we have to fast-forward to 1990, your book, does it not, discusses, I guess, what would be viewed as the favorable results of the 1985 survey; is that correct?

A The audits-and-surveys survey, yes, not Roper.

Q Again, so we're clear, the audits-and-surveys survey, that was done for law firms for tobacco companies; correct?

A That's right.

Q Were you aware of a 1970 public-opinion poll which showed

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that a majority believe that cigarettes are only one of the many causes of smokers having more illnesses?

A I may have seen polls like that.

Q Let me show you.

THE COURT: What document are you using?

MR. BICKS: This is the same exhibit. 1105.

BY MR. BICKS:

Q Do you see this up on your screen?

A I do.

Q And it says that: "Our 1970 public-opinion survey showed that a majority, fifty-two percent, believed that cigarettes are only one of the many causes of smokers having more illnesses."

And then, it drops down: "Thus, there are millions of people who would be receptive to a new message, stating: Cigarette smoking may not be the health hazard that the anti-smoking people say it is, because other alternatives are at least as probable."

And then, it drops down: "The Roper proposal would be a persuasive, if not strictly scientific, medium for this message."

And then, it drops down and it talks about a scenario for action, and it says: "If favorable, present the results to carefully selected members of the following key groups."

And then it identifies a bunch of groups.

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Are you familiar with this document?

A Not until today.

Q What do you think of the practice of distributing polling results only if they are favorable to select groups of people?

A Well, political candidates do it all the time, I think. If they like the results, they release them. In general, when I do my research, I believe you should run the survey and let the chips fall where they may.

Q Now, are you familiar with Lancet?

A Yes.

Q Respected journal?

A Very respected. Distinguished.

Q Has your work been criticized in Lancet?

A There was a book review of one of my books, that made fun of my dust-jacket photo, among other things in Lancet.

Q Is that the only thing? Was there substantive criticism raised in Lancet of your book?

A I forget the substantive criticism. I know this reviewer did not like my book.

Q Do you know who this reviewer was and what his credentials were?

A No.

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Q Do you know he was a leading epidemiologist at Glasgow?
A As opposed to being an economist. So, it's not somebody who works in my field of risk-perception analysis. It's a
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physician.
Q You recall that in Lancet, it was stated that "Little else in this book merits serious consideration. What we are given is spurious argument, predicated on untenable assumption and based on gross over-interpretation of inadequate data." That was what was written in Lancet?
A Fortunately, my other reviews were better.
Q You are familiar with this?
A Yes.
THE COURT: Do you want to give that a number?
MR. BICKS: Yes.
THE COURT: What?
MR. BICKS: Plaintiffs' Exhibit Viscusi 2.
BY MR. BICKS:
Q You're familiar with it?
A Yes.
Q This review also concluded that "The central data source for this book is a telephone survey conducted on behalf of defense law firms involved with tobacco litigation, with an uncertain response rate and an ill-defined sample.
"The answers to a few questions about perceived risks of smoking have been used to suggest that smokers and nonsmokers overestimate the risks of lung cancer, and that people would, in fact, smoke more if they had a clearer understanding of the real risks."
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Do you recall this review?
A I recall him saying that, yes.
Q Then he says: "The sparce data then tortured further, by extrapolating from risk perceptions to smoker behavior." Are you familiar with this review?
A I remember it, but I didn't like it.
Q Do you know who George Lowenstein is?
A He's a psychologist/economist of Carnegie Mellon.
Q A reputable organization?
A And he's a reputable scholar.
Q He has reviewed your work in a peer-review journal, Contemporary Sociology, May 1994, Volume 23, of the American Sociological Association?
A I know he's commented on my papers in a number of his papers. In fact, he's on my editorial board.
Q This is Plaintiffs' Exhibit Viscusi 3 from the Journal of Review, Contemporary Sociology, of your work?
A I have never seen it. I don't know the journal.
Q The American Sociological Association, are you familiar with that?
A I know who they are.
Q Respected peer-review journal?
A I don't know the journal. But the American Sociological Association is a real professional association of sociologists.
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MR. BICKS: I would like to display one page from this.
THE COURT: All right. What page is this?
MR. BICKS: This is page 447.

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THE COURT: What do you want to do about Viscusi 2?
MR. BICKS: Viscusi 2, I would like to move into evidence.
THE COURT: Just the portion quoted?
MR. BICKS: Right.
THE COURT: The same thing is true of Viscusi 3?
MR. BICKS: Yes. Thank you, your Honor. Sorry.
(So marked.)
BY MR. BICKS:
Q "Viscusi finds that smokers themselves have very negative attitudes toward smoking. Although he interprets this as supporting the idea that people know what they are getting into, and thus making a rational decision, the same observation could also support the view that smokers feel trapped in an activity whose implications they did not fully understand when they began. Other smoking statistics, such as that nearly every smoker becomes addicted before age twenty and that two-thirds of smokers would like to quit and a very large number have tried repeatedly, also don't fit well with a rationality model."
Do you recall reading this?

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A I've never read this before.
Q I take it you disagree with the views that were expressed by Mr. Lowenstein in this article in Contemporary Sociology?
A Well, his views are a hypothesis, not a conclusion. And his results are contradicted by my results for the risk beliefs of young people.
Q Let me make sure, just while we've got on this, so we understand kind of the consequences of some of your views.
I have read some of your prior testimony, and is it your opinion that if people understood the actual risks of smoking, that more people would smoke?
A If risk perceptions decreased from forty-three percent to, let's say, forty percent or sixteen percent, the true risk range, more people would smoke.
Q And you were asked, from your point of view, would more smoking be for the public good, and under oath in Minnesota, you said that if people are not misled about the risks of smoking, but instead had more accurate risk perceptions and were more likely to smoke, then that would be good, from the public standpoint."
Did I read that testimony correctly?
A If people are making informed choices with full information, I think I would permit them to make those choices.
Q You think, for example, that from the view of the public

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welfare, that it's not served by reducing the incidence of smoking in this society?
A The objective should be informed, rational choice. If we wanted to reduce smoking, ban cigarettes.
Q When you were asked in Minnesota, is the public welfare served by reducing the incidence of smoking in this society, your answer was, no, public welfare is served by people making more informed choices. Is that your testimony here today?
A The objective is still informed risk-taking behavior. That's our objective, not less smoking or more smoking.
Q If that leads to more smoking, then from your perspective, that's fine?
A If that's what people choose to do when they have full

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information, I support that.
Q And I gather your testimony and views would be the same as to those 18 million people who were exposed to tobacco and asbestos?
A This would be a voluntary choice on their part, yes. If they understood the risks fully.
Q So, with this group of 18 million people who are exposed to tobacco and asbestos, more accurate risk perceptions would lead to more smoking and, in your view, that would be good, from the public standpoint?
A In this case, we have the total risk is including the asbestos. So, it's a higher-baseline scientific-risk
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estimate. So, the risk beliefs are actually closer to the actual risks than they are in general. So, you are going to get less of an effect by moving to twenty percent than you would by moving to ten percent. So, people's actual decisions are not far off -- would happen with full information.
Q In terms of actual risks, I think you said it on direct examination, no doubt in your mind that cigarettes kill people?
A On an expected basis, not guaranteed to kill each individual person. But, yes, lots of people die statistically because they smoke.
Q And from the perspective of the 1989 Surgeon General, who said that smoking is responsible for more than one of every six deaths in the United States, you would certainly not quarrel with that statement?
A If the Surgeon General said it, I'm not going to argue with it.
Q In fact, under your hypothesis and the rational-actor model that you proposed, that if people actually and fully understood the risks, that, in fact, that one-in-six number would be closer to one-in-five, would it not; more people would smoke?
A I don't understand the question.
Q Well, we walked through the consequences of your opinion, and you told us that from a public standpoint, that if people
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really, actually understood the real risks of smoking, rather than overestimate it, that more people would smoke and, from your perspective, that would be fine?
A If they are making informed decisions and that leads to more people smoking, that's okay.
Q All I'm asking you is that when the Surgeon General concludes that one out of every six deaths in the United States is attributed to smoking, under your model, if people had the actual perception of smoking, the number would be closer to one in five, would it not?
A It's not my model.
Q Your opinion, your theory?
A My results say that, yes, if more people smoke, more people would die from cigarette smoke, that's correct.
Q And you know that the Surgeon General of the United States has said that smoking remains the single most important preventable cause of death in our society; do you agree with that statement?
A Yes.
Q You have no doubt that as the Surgeon General concludes, that cigarettes will cause a great deal of human suffering for many decades?

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A I agree there will be many serious adverse health effects.
MR. BICKS: Your Honor, it's getting near 3:00.
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Should we take a short break?
THE COURT: Are you almost finished? You can take a break.
MR. BICKS: I'm more than happy to keep going.
THE COURT: All right. If you can pull it together. We'll take a break. There will probably be some redirect, anyway.
Okay.
(Jury excused.)
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CONTINUING CROSS-EXAMINATION
BY MR. BICKS:
(Jury enters courtroom.)
Q Professor Viscusi, I thought I saw on one of your charts reference to President Carter. Did I read that correctly that you worked under the Carter administration?
A Yes.
Q Are you familiar with the views of President Carter on the tobacco industry?
A No.
Q You're not?
MR. WAGNER: I object, irrelevant.
THE COURT: Sustained.
Q Let me ask you a little bit about the 79, you refer to them as the NCI polls?
A Yes.
Q You told us in essence you do not agree with the conclusions in those polls; is that fair?
A I didn't like the survey question.
Q These were done by the Gallup organization?
A Yes, but not a test of synergy.
Q If you could just answer my question I will promise you we'll get out of here faster. Was it done by Gallup?
A I don't know. I assume so.
Q Is Gallup a reputable polling organization?
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A Yes, they are.
Q In fact, there were three polls, were there not, done by Gallup on this question of asbestos awareness?
A There were three in succession, yes.

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Q Three different polls, correct?
A Yes.
Q These polls were not done for the tobacco industry, were they?
A No.
Q These polls were designed to measure the level of understanding of the health risks of asbestos exposure and also to determine what an individual can do to reduce their health risks, including stopping smoking, is that a fair statement?
A That was part of one question, although there's no explicit mention of smoking in the question.
Q I'm sorry, no explicit mention of smoking?
A In the question.
Q That's your testimony today under oath?
A That's what I recall. I may be wrong, but that's my recollection.
Q Do you recall how many people that the Gallup organization interviewed?
A 1,000 each time -- I don't recall.
Q It was over 1500 people, was it not?

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A Each time?
Q I'm asking you.
A I ballparked it at about a thousand each time.
Q Do you recall whether or not they actually polled specific sub groups within the population to get to the questions they wanted to focus on?
A I don't recall which sub groups they got. I believe this was part of a national poll.
Q Do you recall that they actually defined two sub groups, respondents over age 50 and manual laborers, those were about the two primary targets for the asbestos awareness campaign in the survey, are you familiar with that?
A I didn't see results reported specifically for that, I don't recall those.
Q Are you familiar with the conclusions in the poll that members of the two groups that I told you about, those two sub groups, responded at similarly low levels of awareness? You were familiar with that?
A I forget the exact wording of the report.
Q Let me just make sure. This is Exhibit 76196003 (sic) and the poll is in evidence. Let me make sure we put up, we know what the conclusion was. Can that be read on your screen?
A Yes.
Q The most important thing that a person exposed to

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asbestos can do to protect himself is to stop smoking. Only five percent of the American public was aware of this in February; older Americans and manual laborers -- remember when I asked you about those two sub groups?
A Yes.
Q Does this refresh your recollection that this poll actually focused on older Americans and manual laborers?
A I do remember they had some demographic breakdowns, yes.
Q It says they were no better informed on this point. While the 5 percent figure represents an increase from the June level of two percent, it should be an area of significant concern to health planners. You see that?
A I do.

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Q Again, just so we're clear, remember that there were actually three polls and this was the third poll, correct?
THE COURT: What was the date of this?
MR. BICKS: June, 1979.
A I don't know which one you're reading from but yes, there were three polls.
Q I'm sorry, let me show you. It's the third survey of public awareness, you see that (handing)?
A Yes.
Q You remember there were three of them spread out over roughly a year period of time, the first one, then a second one four or five months later and a third one to measure the
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progress of the asbestos awareness campaign. You remember that?
A I do.
Q Let me make sure I understand. Did you actually ever look at the question that was asked to these people?
A Yes, I didn't recall which one it was when you asked me but yes, I have looked at the question.
Q The question was, remember, what if anything do you think people can do to reduce their health risks if they may have been exposed to asbestos? Is that right?
A That's correct.
Q Let me put up demonstrative Exhibit 4, it was Hanson 26, but it's 4. This is what 5 percent said, stop smoking, right?
A That's correct.
Q Did I take it that you criticized this poll because, I think you said, it was an open-ended question?
A It's an open-ended question plus it was part of a large national survey where people would act hastily when ended with an open-ended probe.
Q An open-ended question, you've written in your literature about the value of open-ended questions, right?
A I've run surveys for the Federal Government, including open-ended questions as well as open-ended questions with probes.
Q Just so we're clear, do you know the actual question that
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was put to these individuals?
A I assume it's the question that you have here (indicating).
Q Do you know whether or not when you say it was open-ended, tell me why you know it was open-ended.
A Because they would say prompt, then go through a series of prompts, getting a list. If it was a survey in which you had formal prompts built into it, that is to say.
Q Do you recall whether or not these folks were actually given a general question and then asked specifically about whether or not they should stop smoking, get medical attention or anything else?
A I don't recall them being specifically asked about smoking.
Q Nobody actually showed you whether or not they were actually asked that?
A That's correct.
Q We'll call it Plaintiff's Exhibit 88040. This is a national asbestos alert campaign, marketing report prepared for the Occupational Safety and Health Administration for the National Cancer Institute.
Let me ask you if you've ever seen this (handing)?

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A No.
Q This is actually a more complete version of the poll that I showed you because this actually has the appendix to it
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which happens to be missing from the document that I think you've got.
MR. BICKS: Your Honor, I would move this into evidence.
MR. WAGNER: Your Honor, I've never seen the document before. It's a new exhibit number and I believe the document used did have an appendix attached.
MR. BICKS: This is cross-examination, never been listed.
MR. WAGNER: I object to the introduction of this evidence. I've never seen it before, this document. It's obviously a very thick document.
THE COURT: You're just putting in the appendix page?
MR. BICKS: Yes.
THE COURT: That page is admitted. It contains the question involved.
MR. BICKS: I'll withdraw it, your Honor. I'm finished.
THE COURT: You're not offering it?
MR. BICKS: No.
THE COURT: It's stricken. Does that complete the cross?
MR. WAGNER: Yes, your Honor.

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REDIRECT EXAMINATION
BY MR. WAGNER:
Q Do you have water? Are you all set?
A I'm okay.
Q Professor Viscusi, you were asked a lot of questions about the fact you've been retained by the tobacco companies to testify about results of your studies in a number of lawsuits; do you recall that testimony?
A Yes.
Q Isn't it true in point of fact that with respect to all of your studies on risk awareness, risk perception, that you represent plaintiffs and defendants?
A That's correct.
Q You've been asked to testify as an expert about how many cases total?
A Maybe 80 cases, somewhere around there.
Q Can you give us an understanding in a breakdown, percentage-wise or however, as to how many times or whatever you testified for the plaintiffs, what percentage you testified for the defense?
A Thus far two thirds for the Plaintiffs, one-third for defense.
Q Charge the same rate to everybody?
A I do.
Q Is there anything wrong in your opinion with a plaintiff
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or defendant conducting or paying for a survey to collect reliable and relevant evidence?
A No.
Q In cross-examination you were asked a lot of questions

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that went to the subject of nicotine addiction, shown a couple of documents and asked some questions; do you recall that testimony?
A Yes.
Q First, you were shown a document, I believe from the files of R.J. Reynolds, a memorandum dated October 30th, 1972, Plaintiffs' Exhibit 9937. I'll put that up. Let me know if you can't see it on your screen.
I believe you were shown what I put in brackets here. There's low awareness of the tar and nicotine numbers --
THE COURT: You have to use the pointer now.
MR. WAGNER: We have a pointer? Terrific, thank you, your Honor.
THE COURT: You're welcome.
Q There's low awareness of tar and nicotine numbers and no comprehension of what they mean; that is to say smokers don't really know how to interpret the tar and nicotine numbers. That's what you were shown in your cross-examination, correct?
A Yes.
Q Does that say that people are unaware that smoking is

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habit forming or addicting?
A No.
Q Are you aware the tar and nicotine numbers that they're talking about in this memorandum are data that's mandated by the Federal Trade Commission, correct?
A Yes.
Q That's according to a Federal Trade Commission method of testing for tar and nicotine numbers, correct?
A Yes.
Q You were also shown Plaintiffs' Exhibit 4495, a 1979 memorandum from Helmut Wakeham to Dr. Seligman, do you recall that?
A Yes.
Q That document again --
THE COURT: 4 --
MR. WAGNER: 4 4 --
Q It says people. The document says that people take up the habit before they become aware of the nicotine psychopharmacology. You see that?
A I do.
Q Does that mean that people don't have an awareness or understanding that cigarette smoking is habit forming or addicting?
A No.
Q In fact, you have reviewed evidence, have you not, that

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millions and millions of people have quit smoking, correct?
A That's correct.
Q Doesn't the Surgeon General 2000 take up that topic?
A Yes, the Surgeon General does.
Q I'm going to show you now Exhibit GK-300415, the Surgeon General 2000 report. I'm going to show you page 97, if I can avoid tripping over that thing again.
What does the Surgeon General tell us in the year 2000 about how many people have quit smoking?
A Self-reported data from 1997 suggests almost 50 percent, four million people who have ever smoked have successfully quit smoking.
Q Does the Surgeon General also talk about how many of

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those people have quit without any help?
A Yes, later in the report the Surgeon General gives that number.
Q At page 100, what does the Surgeon General say?
A Historically, the great majority of smokers, more than 90 percent, who successfully quit smoking did so on their own; that is, without the assistance of formal cessation programs.
Q In point of fact, the Surgeon General has also reported that nicotine addiction has been well known for substantial period of time; isn't that correct?
A Yes.
Q It's been well known since the 1920s, the 1930s, all that
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way back; is that correct?
A It's been in the scientific literature since then.
Q You have read the Surgeon General report, at least certain portions, from 1988?
A Yes.
Q I'll show you a page from that report, GK-000245. I'm going to show you page 10, 1988, the year the Surgeon General decided to switch from characterizing smoking as "habit forming" to "addictive," what did the Surgeon General say about historical knowledge about nicotine addiction?
A As early as the 1920s and 1930s, some investigators were concluding that nicotine was responsible for the compulsive use of tobacco products.
Q What does the Johnston study conclude?
A Smoking tobacco is essentially a means of administering nicotine just as smoking for morphine.
Q The concept of nicotine addiction is not something secret inside tobacco company files, was it?
A No.
Q Are you aware of Roper data going back many years, 1978, for example, showing 96 percent of smokers believed smoking is either habit forming or addictive or both?
A Yes.
Q You were shown on cross-examination some data from Paul Slovic from Eugene, Oregon, Decision Research, Inc., a draft
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of a chapter in a book that might be published at some point in time that said 87 percent of people are still smoking after five years even though when they were asked five years earlier they thought they wouldn't be smoking that long; do you recall being asked that?
A Yes.
Q Does that necessarily mean they were addicted to smoking?
A No, you can start smoking and decide you like it, you want to keep on smoking.
Q Paul Slovic is interesting. In his year 2000 chapter, he actually did something that we talked about when we talked about what makes a good survey. He attempted to replicate your smoking and lung cancer question, didn't he?
A Yes, he did.
Q In fact, if we look at page 22 of Exhibit WZ-001534 --
THE COURT: That's the book?
MR. WAGNER: The chapter from the book.
Q Professor Slovic says early in the survey, respondents were asked to imagine 100 cigarette smokers, both men and women, who smoked cigarettes in their entire adult lives. How many of these hundred people do you think will die from lung cancer? You see that?

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A I do.
Q What did Professor Slovic find when he attempted to replicate your question?
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A A bigger number than I got.
Q At page 41, the adult sample?
A People think the risk of lung cancer death is 48.5 deaths out of 100.
Q That's what Professor Slovic found, that's higher than our comparison of the actual risk rates?
A Yes.
Q Even if we use Dr. Slovic's 20 of 100 dying of lung cancer?
A Yes.
Q You were asked a number of questions about whether or not your studies were surveys of Manville Trust claimants and whether or not they were studies of asbestos workers; you recall those questions?
A Yes.
Q Let's be fair. Are you aware of any study regarding underestimating the risk of nicotine addiction done of the Manville claimants?
A No.
Q Are you aware of any study of underestimating the risk of nicotine addiction of asbestos workers?
A No.
Q Are you aware of any study that was done on blue collar workers of nicotine addiction?
A No.
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Q There have been studies in psychological literature that you weren't shown that talked about whether or not smokers underestimate the risks of addiction, aren't there?
Richard Jenks from the Department of Sociology at Indiana University, are you familiar with him?
A Yes.
Q Published in the Journal of Social Psychology in 1991?
A Yes.
Q This has been marked as Exhibit WZ-001533. Let me show you what Professor Jenks concluded, page 574. What did he find?
A Contrary to expectations, the smokers were more, not less, likely to feel that smoking is addictive.
Q Finally, you've studied the question of whether or not smokers appreciate long-term risks, haven't you?
A Yes.
Q You published the results of your study in April,-June 2000 in the Journal of Behavioral Decision-making?
A I did.
Q What did you find?
A I found that people, there's widespread knowledge of the fact that cigarettes form either habit or addiction, smoking is hard to quit.
Q You were asked some questions about whether or not data could go backwards, whether or not there was awareness of
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smoking and lung cancer, came up a variety of times but asked a number of times whether or not people were aware of the hazards of smoking early on; do you recall being asked about that?

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A Yes.
Q In fact, you were asked a couple of questions, I think, about asking what was the average date of birth of the Manville Trust claimant. I believe you said it was 1925. The question was raised about what does that mean about awareness in the 1940s, awareness of the risks of smoking in the 1940s. Do you recall being asked those questions?
A Yes.
Q Aren't the 1940s before the time when the first scientific data appeared linking smoking to lung cancer?
A Scientific evidence, as I recall, started to emerge in the 1950s, early 1950s and increased in the late 1950s, solidified in '64.
Q Isn't it true that as early as 1954, according to the Gallup poll that 90 percent of the people surveyed had heard or read something recently to the effect that cigarette smoking may be a cause of lung cancer?
A Yes.
Q Isn't it true that in 1957, 77 percent of the respondents to a Gallup poll had heard or read about an American Cancer Society study of the effects of cigarette smoking?
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A Yes.
Q We've talked and seen with other witnesses about the relationship between what people hear and what they believe and then when they're going to make a choice.
Isn't it true that in 1977, 90 of the people surveyed said cigarettes smoking was harmful?
A That's correct.
Q Didn't we see on direct examination Roper in 1980 found levels of awareness that smoking is a cause of lung cancer exceeding 90 percent?
A Yes.
Q If we look at some trend data published, actually already in evidence, ARF-001123, from the Gallup web site?
THE COURT: In evidence already?
MR. WAGNER: It is.
Q This shows the response to the question over time, the response over time to the question, do you think cigarette smoking is one of the causes of lung cancer? Right after the 1964 Surgeon General report, what happens to the public's belief about whether or not smoking causes lung cancer?
A It jumps from 50 percent to 70 percent of the American public thinking that's the case.
Q Go down after that, where does it go?
A Keeps going up, now up to 92 percent, 94, percent, 92 percent. (Continued on next page.)
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EXAMINATION CONTINUES
BY MR. WAGNER:
Q When you were read some information from the 1989 Surgeon General, about whether or not people might be underestimating the risks. Do you recall that?
A I do.
Q Let's look at what the Surgeon General actually concluded. The Surgeon General '89 is GO-100075.
THE COURT: That's also in evidence?
MR. WAGNER: Yes, that is in evidence.
Q What does the Surgeon General say about the developments in the way in which our society now views smoking as a result of the public health community's antismoking campaign that

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began in 1964 and that the Surgeon General was reviewing in 1989 and calling 25 years of progress? Begin with, "most important."
A Most important, these developments have changed the way in which our society views smoking. In the 1940s and 1950s, smoking was chic. Now, increasingly it is shunned.
Q He goes on?
A Movie stars, sports heroes and other celebrities used to appear in cigarette advertisements. Today, actors, athletes, public figures and political candidates are rarely seen smoking. The ashtray is following the spittoon into oblivion.
Q The ashtray is following the spittoon into oblivion.

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If we drop one paragraph what does the Surgeon General have to say about the antismoking campaign?
A The antismoking campaign has been a major public health success. Those who have participated in this campaign can take tremendous pride in the progress that has been made.
Q Now, let's talk about the document that you were shown put up on the screen for a long time. It was Plaintiff's Exhibit 30862. It was a memorandum dated 1964 about a possible survey.
Do you recall being asked some questions about that?
A Yes.
Q 1964 was the time the Congress was first considering legislation that might mandate the tobacco companies to put hazard warnings on cigarette packs, right?
A That's correct.
Q Given that, is it reasonable for the tobacco companies to collect data that might be relevant to a determination about whether or not hazard warnings would be needed?
A It would be very useful to know what people know because if they know it already, you don't have to put it on the warning label.
Q It says the tobacco companies actually consulted with two marketing experiments. Is there anything unreasonable about that?
A No.

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Q Now, the plaintiffs displayed some parts of a memorandum. This was Plaintiff's Exhibit 30862. I want to focus on a few things here.
See it is dated May 23, 1964, correct?
A That's correct.
Q It was written by someone named Abe Krash, do you see that?
A I do.
Q It was addressed to someone named Ramm, that's the first one and then some others, correct?
A I see that.
Q It says, it begins that a decision was reached to proceed on a preliminary basis. You see that?
A I do.
Q Further down the page, though, it says, that there was concern over the possible use so I assured Mr. Ramm that I would not proceed with the survey until I received further instructions.
You see that?
A I do.
Q On the second page, Mr. Krash says, I am informed that if the results of the survey are to be available for use prior to

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the end of June, we must notify the research organization of our decision by May 27 or May 28.
Do you see that?
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A Right. That's four days, five days after this memo.
Q Now, plaintiffs' counsel suggested that you have never seen the survey. You've never seen the results, that the lawyers who were working with you for the tobacco companies never gave it to you.
Right?
A That's what they suggested.
Q They suggested that it's inappropriate to design a survey in a way that would rig the results, right?
A Yes.
Q Did he tell you whether or not that survey was ever run?
A No.
Q Let me show you GZ-210265. It is after the original memo, five days later, right?
A That's right.
Q It is from Ramm, one of the addressees, to Krash. The guy that wrote the original memo. Right?
A That's right.
Q What does it say?
A At a meeting of counsel in New York on May 26, as I indicated to you on the telephone, it was decided not to go ahead with the survey referred to in your letter of May 23.
Q You've never even seen the 1964 memo before today, have you?
A No.
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Q You designed your own surveys, smoking where necessary and believe -- smokers and the consumers' belief in the dangers of smoking in 1991 and you did it again in 1998, right?
A That's correct.
Q You added other types of questions besides how many people out of a hundred will die of lung cancer, right?
A I did.
Q Any of those other questions in the survey that was proposed in 1964?
A No. I never saw those questions.
Q Now, all of those surveys, they asked questions about how many smokers out of a hundred might die, what do you believe is the total risk of smoking from all diseases and expected life loss, are the results of those kinds of surveys the results that experts in your field typically rely upon in order to draw conclusions?
A Yes.
Q Did the tobacco companies ever exercise any editorial control over your analysis or your publication of any of the data from those surveys?
A They had no input whatsoever.
Q On cross-examination you were shown a document about the Roper organization. You have now worked with the Roper organization, right?
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A That's correct.
Q You are aware that they are a reputable operation?
A They are a very well known reputable organization.
Q Has anything you were shown on cross-examination cause

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you to doubt that?
A No.
Q You were showed Plaintiff's Exhibit 1409, may have been called out by the wrong exhibit number during cross-examination. It is the May 1, 1972 memorandum from Fred Panzer to Horace Kornegay, Your Honor, regarding a Roper proposal.
Do you recall that?
A I do.
Q You were showed one of the action points. You weren't showed all the action points, were you?
A No, I was not.
Q What does the first scenario for action point say?
A Select a panel of experts to consult on the design of the study. Ideally they would be prestige figures who would initially have a solid contribution to make and who would also be willing to endorse the study publicly at a later stage.
Q Anything wrong with hiring a panel of experts to consult on the design of a study?
A No.
Q You were read from action point number five but you

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weren't shown or read the last sentence of action point five. What does that say?
A The industry's funding role would be fully acknowledged.
Q Let's talk about the National Cancer Institute poll, polls of survey awareness done in connection with the asbestos awareness campaign.
Point of fact, the survey was attached to the second set, to the second survey, wasn't it?
A It was.
Q That's what we blew up on the board, the Viscusi demonstrative this morning, didn't we?
A We did.
Q It says, questions asked. Right?
A That's right.
Q It goes one by one through the questions.
Question seven asks, what if anything do you think people can do to reduce their health risks if they may have been exposed to asbestos? Does that say anything about cigarette smoking?
A Cigarette smoking is not there and there is no indication that they should ask about cigarette smoking.
Q Is there anything plaintiffs' counsel asked you about the NCI surveys or the NCI data that causes you to change your opinion that that data does not provide reliable evidence about people's knowledge of tobacco asbestos synergy?

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A There is nothing he said that makes me change my opinion.
Q Okay. Now let's talk about internal documents generally.
You were showed some internal documents from the tobacco companies. My first question is, do they affect your conclusion about what the public believed regarding the risks and dangers of smoking?
A No, because to find out what the public believes you have to look at their risk beliefs, rather than looking at documents. So you want to measure the public's own risk perceptions.
Q In fact, there actually were a couple of internal tobacco

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company documents if you think about it were there? Who financed the 1985, 1997 and 1998 studies?
A That's correct.
Q That's the tobacco companies, right?
A They were the tobacco industry lawyers, yes.
Q They gave you all of the data to analyze, right?
A They did.
Q Okay. Now, you have studied what people believe when they hear data that comes from multiple sources, including government and industry, right?
A I have.
Q I believe you told us on direct examination that you have

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found as a result of experimental studies that when people are hearing risk information they tend to fear the worst, correct?
A That's right.
Q For how long has the government and the Surgeon General and the public health community been disseminating information that smoke causes lung cancer and other dread diseases?
A For at least forty years or so.
Q The same thing for whether or not smoking is addictive or habit forming?
A That's correct.
Q In fact, the tobacco company's internal documents actually became external over the last couple of years, correct?
A They did. They were released I know as part of the Minnesota litigation.
Q They are on the Internet, aren't they?
A They are. And they -- they are available to the press and anybody can download them.
Q Millions and million of pages of documents.
Now, Viscusi 21 showed us that you have been measuring people's risk beliefs since 1985, about fifteen years worth of data.
A That's right.
Q You have data in 1997 and 1998 after the tobacco company documents started to be revealed, right?

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A That's right.
Q Any change in the people's risk perceptions or risk beliefs.
A No. They are about the same place as they were in 1985.
Q Now let's talk about optimism bias. You were asked some questions about the FTC staff report in May of 1981, a document with which you are familiar, correct?
A Yes.
Q Isn't it true that in that report that report was done because the government was considering changing from the Surgeon General's warning to a rotating system of Surgeon General warnings, correct?
A That's right.
Q Isn't it true that in that report, the FTC had in front of them a rotational warning set that was used in Sweden that contained a warning about synergy?
A In fact, that's one of the appendices to the report.
Q Did the FTC recommend a synergy specific warning or not?
A It did not recommend such a warning.
Q Okay. Now, you were asked a lot of questions about optimism bias, about asking people whether or not they personally believe that smoking is risky to them and you were

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confronted with some statements by some of the people in the cognitive psychology field who have criticized your work. Do you recall that?

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A That's correct.
Q Much of the optimism bias literature, the psychological literature you have read?
A Yes.
Q Are you aware of any study by any cognitive psychologist in that field that has measured people's awareness using any scale that is comparable or can be equated with people's actual risks of dying from smoking related diseases?
A No studies that contradict mine. No advocates of optimism bias have done this.
Q In fact, when you look carefully at the data, isn't it true that a lot of the cognitive psychologist data actually supports the findings you have made?
A That's right.
Q The psychologists who discuss optimism bias agree generally, don't they, that when a risk is big, people are less likely to be optimistic?
A That's one aspect of that area of research, that big risks are not subject to optimism bias.
Q In fact, isn't it true that the cognitive psychologists agree that smoking is just such a big risk?
A They do.
Q Isn't it true -- we talked about Professor Jenks below and you are also familiar with Susan Segerstrom?
A Yes, from UCLA.

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Q She was on Professor Hanson's charts. That they have looked and found that because of the bombardment of public health information that smokers are no longer able to discount the risks of smoking?
A That there is no optimism bias, yes.
Q Let me show you what Professor Jenks concluded in 1991.
THE COURT: This is what document?
MR. WAGNER: This was document WZ-0001533.
THE COURT: Is that in evidence? Or are you just offering it?
MR. WAGNER: I am offering it now.
THE COURT: You are offering the quote?
MR. WAGNER: Yes.
THE COURT: Okay. The quote is in evidence.
Q What does Professor Jenks say about the ability of smokers to discount the risks?
A Contrary to expectation, the smokers were more, not less, likely to feel that smoking is addictive, both physically and psychologically, and that it could lead to major health problems. Quite possibly, the information bombardment by the media has become so strong that it is now impossible to avoid the information or deny the health costs of smoking.
Q Susan Segerstrom, published a study in 1993. This is Plaintiff's Exhibit 4799?
THE COURT: In evidence.

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(Marked.)
Q I will make that a little larger.
The steady barrage of public health information over the last two decades about the relationship between smoking

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and health, especially regarding smoking related risks for cancer, lung disease and heart disease, has evidently affected smokers' ability to discount the effects of smoking on their health.
Q That's what the cognitive psychologists are saying about that topic, correct?
A That's correct.
Q Now, some of the cognitive psychologists have asked personalized questions in order to find out whether it makes a difference as to whether or not there is actually a reduced risk belief, haven't they?
A They have.
Q Are you familiar with Kristina Lee's study?
A I am.
Q She published a study in 1989 in the Journal of Behavioral Medicine. Correct?
A That's right.
THE COURT: This is number what?
MR. WAGNER: This is number WZ 001535.
THE COURT: And you are offering it?
MR. WAGNER: I am offering the quotes.
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THE COURT: Only the quotes. Okay.
Q The methodology Doctor Lee explains for the first three items -- she was studying smokers in Australia, right?
A Yes.
Q She was -- for the first three items they were asked to consider an average Australian smoker and give percentage ratings of that person's risk of developing lung cancer, heart disease and a chronic lung disease other than caner at some stage during his or her life.
The second three items were identical, but asked the respondent to think about whether it is likely to happen to yourself and rate the chance of themselves developing each of the three diseases at some stage during their lives.
You see that?
A Right. That's a test of optimism bias.
Q What does Doctor Lee say about the main effects of her study?
A She got the same answers. There is no significant main effect for smoking status or for age group on overall ratings of risk combining ratings across all diseases and both orientations.
Q She continues?
A Averaged across self and average smoker ratings, smokers and non-smokers did not differ on their ratings for lung cancer and non-cancerous lung diseases but smokers rated the
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risk of heart disease higher than the non-smokers.
Q Smokers actually were higher?
A That's correct.
THE COURT: Does she show the breakdown in age? There is a reference there to age.
MR. WAGNER: I believe she does. I will provide Your Honor with a full copy.
THE COURT: No. I am just wondering.
MR. WAGNER: I'm sorry?
THE COURT: Let's have it. What is it?
MR. WAGNER: I only have the pages that we have highlighted.
THE COURT: Some other time.

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MR. WAGNER: I apologize.
THE COURT: That's all right.
Q I have one more quote from Doctor Lee's study that I wanted to have you recognize, Professor Viscusi.
THE COURT: This is the same document?
MR. WAGNER: The same document.
A Overall perceived probabilities are considerably higher than actual risks. For example, the overall mean ratings for average smoker's risk were 54 percent for lung cancer, 54 percent for heart disease and 60 percent for non-cancerous lung diseases. Dol and Peto's study of British doctors indicates that six percent of smokers's deaths were due to

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lung cancer and 30 percent to heart disease.
Q She is finding even higher risk beliefs than you have found, isn't she?
A She is.
Q Are you familiar with a study done by Paul Slovic regarding personal risk beliefs?
Paul Slovic is the person that the Trust counsel referenced in cross-examination. Correct?
A That's correct.
Q He published a study in the Journal of Adolescents in 1993. That is WS-001609. It is called a Psychometric Study of Risk Perception.
THE COURT: I missed the number.
MR. WAGNER: WS-001609. I apologize. I went too fast, Your Honor.
Q A Psychometric Study of Risk Perception; is that correct?
A Yes.
Q The same Paul Slovic that you were asked about on cross-examination, correct?
A That's correct.
Q Paul Slovic asked about people's belief in the risks of smoking to themselves and their peers, correct?
A That's correct.
Q At page 158, he describes his methodology, personal risk, risk to peers. You see that?

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A Yes. They would have to rate these from one to seven, where one means very much at risk. Seven not at all risk. So a lower number means a higher risk.
Q Lower number means higher risk?
A For cigarettes --
Q Let me ask you a question. I am supposed to do it that way.
What did professor Slovic find?
A Professor Slovic found that for cigarettes people rated the risk to their peers as -- personal risk at four point three, and the risk to their peers at four point four. So there is a higher score in terms of the personal risk than there is to the risk to other people.
Q He found people found smoking to be more risky to themselves than to general, is that right?
A That's correct.
Q I want to ask you about one more. Are you familiar with a study done by Sara Hamson and others in Oregon in 1998 called Lay Understanding of Synergistic Risk, the Case of Radon and Cigarette Smoking?
A Yes.
Q This was a study about people's beliefs to the risks of

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cigarettes, a synergistic risk not with asbestos but with radon?
A Yes.
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Q Conducted in Oregon, where Paul Slovic lives?
A His own turf, yes.
Q They looked for optimism bias.
THE COURT: This is number?
MR. WAGNER: This is WZ-001556.
Q If we look at her analysis of the means, what did they find?
A Analysis of these means indicated no support for an optimistic bias in the perceived health consequences of these three hazards.
Q And in layman's terms they said?
A Unlike some past research, we did not find direct evidence that smokers were optimistically biased about the health risks from smoking.
Q You have studied optimism bias, have you not?
A I have studied it for the federal government, yes.
Q What did you find as a result of your studies?
A I found that optimism bias is found in the literature, was mainly an artifact of the questions they asked. These studies asked people questions like, are you riskier than average or safer than average. People don't want to find fault with themselves.
So the old result in the literature, you ask people are you a safer driver than average, 80 percent of the people say that they are safer than average. But if you ask people a
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risk rating question, where they actually rate the risk on a scale to give you the level of the risk, as opposed to asking them to find fault with themselves, you don't find the optimism bias.
And that's what these studies did. They knocked out the optimism bias by asking the question right. Our study for EPA, the Environmental Protection Agency, we also found even though people gave optimistic answers to whether they thought their houses were relatively safe, when it came to taking safety precautions they were not optimistic. They actually did take the safety precautions.
Q Let me jump back and ask you a question I forgot to ask you before.
When we looked at awareness of people's -- awareness of the risk of lung cancer from cigarette smoking, you saw the Gallup poll data?
A Yes.
Q You saw that it jumped in 1964?
A That's right.
Q What about people already smoking? Weren't they the ones that were subject to the antismoking campaign?
A They would have been targeted, yes.
Q So those were the folks who quit, that the Surgeon General finding in 2000, forty-four million people were quitting?
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A Yes.
Q Is there anything that you were asked on cross-examination that shows that people don't understand the risks of smoking?

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A No.
Q And that they have understood that risk for decades?
A There is nothing that showed me that -- that indicates that.
Q Even while the tobacco companies are out there with their advertisements and the public statements saying that disease causation is not proven?
A That's correct.
Q I want to conclude on this note. You were asked some questions, going back to Professor Hanson's testimony about people's abilities to think in terms of probabilities. Right? Do you recall that?
A That's correct.
Q Professor Hanson has said a lot of things about whether or not people can think straight. He's talked about a numeracy problem?
A Yes.
Q Professor Hanson stated in his published articles, he has a problem of irrational actors, right?
A Yes.
Q Professor Hanson said people display a notable ineptitude

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for probability, right?
A Yes.
Q He said that people display a host of non-rational cognitive features, didn't he?
A He did.
Q He called people lay scientists who practice bad science, didn't he?
A He did.
Q He said the way in which individuals make scientific and probabilistic judgments don't represent reasoning in the classic sense at all.
You are familiar with all that?
A Yes.
Q That's Professor Hanson's views.
Professor Viscusi, based upon your surveys and your experiments, do you think people can understand risks and make choices for themselves about whether or not they want to take those risks?
A I have shown not only for smoking risks but for job safety, a variety of other areas, people are capable of making risk assessments and making sound risk taking decisions.
Q Do you think blue collar workers are capable of understanding risks and making choices for themselves?
A I think blue collar workers can make good decisions.
Q Do you have any reason to believe that these principles

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would not apply to asbestos workers?
A I have no reason to believe they wouldn't apply.
MR. WAGNER: Thank you very much, professor.
MR. BICKS: Nothing further, Your Honor.
THE COURT: All right. Why don't you take a break?
Remain here for a moment, doctor, please. You can all take a break.
(Continued on next page.)

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(The following occurred in the absence of the jury.)
THE COURT: Sit down, doctor. I want to chat with you for a few minutes.
THE WITNESS: Okay.
MR. BERNICK: Can I represent him?
THE COURT: Well, I am interested in what you say because it has obvious implications in the criminal law, choices that people make, risks and so on. We have them in the drug cases before us, in accident cases. It cuts across an awful lot of our work.
But I found it almost counter intuitive with respect to the problem of risk adversity, if there is such a concept. Because you see these young people who take on drugs or begin smoking or drive in what we more mature people might consider a careless way.
THE WITNESS: Right.
THE COURT: At great risk to themselves. Theoretically, I suppose they know the risks. But their approach to them is quite different from that of a mature person, very often.
I didn't see the age quantifications in these materials. It becomes a problem in asbestos and some of the other cases because some -- the workers in this area were very often quite young, eighteen, twenty and they started smoking at that age.

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What is the explanation, if any?
Of course, then there is the added factor with drugs and smoking of addiction, so that if you start when you don't think very much of risks, you may be hooked later.
THE WITNESS: I am a father of a teenaged son. I am very much aware of driving risks for teenagers.
We found for the 1985 survey you can break out the sixteen to twenty-one year olds. They actually have higher risk beliefs for smoking than do the older people, which is good in the sense that they've gotten the message.
There are also are lot of studies now in defense of teenagers done by psychologists, like Baruch Fischoff, defending teenagers as being more sensible than people give them credit for.
And you start off talking about crime. I did a study in the 1980s showing -- of youth crime, showing that for youth crime, where they think there is a big risk of getting caught, a big risk of getting convicted and going to prison, they need that to be more lucrative for them to do it. So they may be doing the wrong thing but they're rational in the sense if they are going to get caught they need this to be a high payoff crime.

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THE COURT: But you do have this factor, and you see it in war, you know, when we were very young, none of us thought we were going the be the ones that got knocked out.

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But you also see it in these other activities we have been talking about. There is a rational understanding what's at stake, but there seems to be a psychological barrier to absorbing it and acting on it.

But that you think does exist, that difference between the rational and the irrational?

THE WITNESS: People can make mistakes. That's for sure. At least -- the great majority of workers seem to be behaving sensibly so if a worker works on a dangerous job, if they don't get paid more for it, they will quit.

THE COURT: I know some of those statistics about valuing lives by that technique.

THE WITNESS: Our studies, when we showed people the hazard warnings, they said if they wouldn't get paid more after seeing the hazard warning, they would quit. To the extent people are skeptical if you don't have another job to go to, it's part of the quit. That's why you would like a good full employment economy like we have now.

THE COURT: If you did your studies and tried to stratify them on an age group, you'd come up with essentially the same results, do you think?

THE WITNESS: I did for smoking. In fact, the effect of smoking risk perceptions on the probability that you smoke, it decreases it by just the same amount for young people as it does for adults. You might argue that perhaps it should

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increase it's more, but anyway, you get -- you at least get as big an effect for young people as you do for adults.

THE COURT: Are more adults now or less adults compared to young people taking up smoking? I suppose that's not a fair question because if you are an adult you have gone through the stage of deciding whether to smoke or not.

THE WITNESS: That's right.

There have been actual increases in youth smoking, but a lot depends on how they measure it. Some surveys couch you as a smoker if you smoked one cigarette in the past thirty days. They keep on having -- unless you look at what they are counting, you don't know what they are picking up. But I think there has actually been some increase in real smoking, like a pack a day smoke, recently.

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THE COURT: Among youth?

THE WITNESS: Among youth. But it bounces around from year to year.

THE COURT: Does that track generally the drug

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experiments of young people?
THE WITNESS: That's interesting. In fact, I have a student who did a thesis on cigarette smoking and marijuana use, and found there's a relationship there.
THE COURT: And drinking?
The risk of drinking?
THE WITNESS: I think teenagers who do some bad things do lots of bad things: Smoking, drinking, marijuana use, whatever.
THE COURT: All right. Well, you're free to go down the street.
THE WITNESS: I'll go celebrate in Downtown Brooklyn.
THE COURT: While you're here, I suggest you look around and enjoy it. It's an interesting area.
THE WITNESS: It is. I ran the Brooklyn Bridge this morning, and enjoyed it.
MR. WAGNER: Professor Viscusi has not only published the age variation in his book. In the review of economics and statistics in November of 1991, called "Age variations of risk perceptions and smoking decisions." It's on the exhibit list

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with the number GC-300. I was going to move it into admission. GC-30001.
THE COURT: All right.
We're not admitting whole articles. We're just admitting portions that are relied on.
MR. WAGNER: I can give the table, and maybe -- the table. I'll find a redacted way to get it done.
THE COURT: All right. One page, table only.
(So marked.)
THE COURT: All right. Thank you very much, sir.
THE WITNESS: Thank you, your Honor.
(Witness excused.)
THE COURT: Are you ready with your next witness? Is he here ready to resume?
MR. KRAUS: Yes.
THE COURT: Okay.
We'll take just a minute, and then go on with Dr. James Kirby Martin.
(Recess taken.)
(In open court; jury present.)
J A M E S K I R B Y M A R T I N, resumed.
THE COURT: All right. Proceed, please.
DIRECT EXAMINATION
BY MR. KRAUS: (Continued)
Q Good afternoon, Professor Martin. Thank you for agreeing

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to let us interrupt your testimony to accommodate Professor Viscusi.
A Fine.
Good afternoon.
Q Just to briefly recap where we were, we had covered your background, your qualifications, some of the very early historical references concerning smoking, some of the slang terms that have been applied to it over the years, and I think we had just begun addressing some of the textbook references. We had also talked about the prohibitions in a variety of states?
A That is correct.
I believe that we had looked at one New York City

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textbook, or textbook that was -- if I state it properly -- that was adopted for use in New York City schools, and I think that would be a logical place to pick up.

MR. KRAUS: Your Honor, this is Martin Demonstrative Exhibit 11.

THE COURT: Yes.

BY MR. KRAUS:

Q This is a 1902 quote from The Child's Book of Health, a New York City school textbook. Dr. Martin, can you read it for the jury, and explain why you think it's significant?

A Yes. The quotation here is: "Why is tobacco a poison? Because it has in it nicotine, one of the most deadly poisons

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known. A single drop of it has killed a full-grown cat in one minute."

So, it's a case of nicotine, the alkaloid of tobacco, being identified as a substance with a potential to kill.

Q Can I have the next slide?

This is a 1932 reference in a New York school textbook, "Cleanliness and health." And you can see, obviously, that it has a reference there to cancer. What's the significance of that?

A Well, let me perhaps read the quotation and then we can pick it up. Professor Irving Fisher of Yale University has the following to say about tobacco: "It lessens the resistance to tuberculosis and other diseases. Its use sometimes produces cancer."

And one of the points that I would like to make is that I've seen references associating tobacco with the development of cancers of various types and kinds which go back into the 18th Century. So, there is an association there, at least historically speaking, and I think that that's very important. Again, we talked yesterday about the accumulation of knowledge and how important that is as we move forward to the present, and here we have that kind of a reference which is being stated in this book, and that information is being made available to these students.

MR. KRAUS: For the record, that was Demonstrative

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Exhibit 12. The next one, please.

BY MR. KRAUS:

Q What is this one about?

A "Making life healthful." Again, this is a New York school textbook that is used in the New York schools.

"Tobacco contains nicotine, which is a narcotic, habit-forming and poisonous drug."

To pick up again on what we talked a little bit about yesterday, "habit-forming" is one of those terms that we associate with tobacco, going back through "bewitching, enslaving" and other similar kind of terms, and that is being emphasized here in this particular example.

Q This is Demonstrative 13, your Honor.

The next slide, please.

This is Demonstrative 14, which comes out of the curriculum development for the elementary schools in 1955. What is a curriculum development?

A Well, curriculum guides have been around for, I guess we could say, 100 years or more. These guides are developed in virtually every state -- I shouldn't say "virtually" -- every state in the union, and they are guides for teachers, the purpose of which is to give teachers a sense of what they

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should be accomplishing in the classroom.
And in this case, this is a guide for Grades 3 through 6. We have certain kinds of desirable outcomes that
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are being specified here relating to the health educational program in elementary schools. These outcomes may be classified as follows, and it's very straightforward. The goal here is that the students will have knowledge of the harmful effects of alcohol, tobacco and narcotic drugs.
Q Is that a common grouping in the textbook or educational materials that you have reviewed?
A Yes, it is. In health-related textbooks, these are almost, if I can put it this way, the Big Three.
Q We have looked at a number of New York City textbook materials, probably for obvious reasons, because we're in New York City.
Was New York City unique, during this time period, in emphasizing the harmful and habituating effects of tobacco in its school systems?
A No, it was not. I have reviewed materials from several states, and New York City was, I would say, very much within the norm. The goal here is to get information out regarding the harmful effects of tobacco use.
Q In addition to the schools, was there also evidence in the business community of hostility to tobacco, and connecting tobacco to harmful health effects?
A Yes, very much. That certainly is very much the case.
Q Were there any well-known business leaders from the early 1900s who were openly opposed to smoking?
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A Yes. Two in particular whose names are, I guess, with us, still, every day. Henry Ford and Thomas Alva Edison were both very anti-tobacco in their thinking, were individuals who were very concerned about the various kinds of health ill effects associated with tobacco, to the point of that they absolutely refused to hire smokers in their factories and in their plants. So, I guess this would be an early example of actual barring of smoking in the workplace, in this case not only barring it, not allowing smokers into the workplace, so they would not have had an opportunity to produce automobiles or work on the many inventions of Edison.
Q This is Demonstrative Exhibit 7. You mentioned this yesterday in some of the phrases that have been applied to smoking. What is this?
A This is, I think, one of the most famous of the anti-tobacco tracts of the at least early 20th Century. Henry Ford, very, very committed on this issue of getting the word out about the health ill effects of tobacco, sponsored a pamphlet. It actually originally came out in four parts. The title: "The case against the little white slaver." And this is a representation of that particular document.
And what would happen is, if you would go into a Ford dealership and consider buying a Ford automobile, you would be handed this pamphlet. That's the way it was distributed, through the Ford agencies. And there were thousands of these
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that were distributed. The content of which is, over and over again, to use a phrase from this particular pamphlet, would be it really deals with the addictive -- and the word "addictive" is there -- the addictive effects of tobacco, and concern

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about that.
Q When was that done? What's the time period of this?
A The various parts came out in 1914. And I think the combined versions perhaps were available in '14, but it may not been until '15 and '16. It was right around that time frame.
Q You mentioned Thomas Edison. Was he also anti-smoking?
A Yes. I think we have a slide which would -- this is Thomas Edison's opposition to cigarettes. There is a letter that Mr. Edison sent to Henry Ford. This actually appears as prefatory material in "The case against the little white slaver." But Edison --
Q Can you read it for the jury?
A Yes. "Friend Ford, the injurious agent in cigarettes comes principally from the burning paper wrapper. The substance thereby formed is called acrolein. It has a violent action on the nerve centers, producing degeneration of the cells of the brain. Unlike most narcotics, this degeneration is permanent and uncontrollable. I employ no person who smokes cigarettes. Yours truly, Thomas Edison."
Q Is that the same Thomas Edison who invented the light

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bulb?
A And lots of other items, yes.
Q Let's change subjects for a moment, and turn to popular culture. Has smoking or has -- have anti-smoking messages been included within popular culture for decades?
A Yes, it has.
Q First of all, why don't you explain to the jury what "popular culture" is?
A I think the best way for me to explain popular culture is perhaps to do it by example, and to point out that I have already offered slang expressions in testimony yesterday, various types, such as "cancer stick" and "coffin nail." These are words that we simply use to communicate with one another, and we're going to show you some examples of that.
In addition, popular culture comes in lots of different forms. When we go to the movies, when we watch television, when we listen to music, and popular -- it's popular in the sense that it is very widespread in our culture, let's say, as opposed what some might refer to, -- and I don't want to pick on anything -- such as going to the opera, that sort of thing. These kind of items would be more generally available, and would be, I think of greater interest to those ordinary persons that we were talking about, again, yesterday.
Q Does popular culture play a role in both reflecting and

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spreading common knowledge?
A Very much so.
Q Can you explain that?
A Yes. Reflecting, in the sense that the best way, I think, to say it is that it's going to reflect the kind of a notion that you have, let's say, with the "coffin nail." It's a certain kind of image that is there. And then, as that is circulated through society, that, indeed, more and more people become aware of a certain kind of an association with a particular kind of a -- particular kind of a product or commodity, in this case, the cigarette.
Q Has humor been used over the years to spread the message that cigarette smoking is bad for your health and hard to

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quit?
A Very much so, yes.
Q Do we have an example in Mark Twain?
A Yes, we do.
Q Number 8, please.
MR. KRAUS: This is Demonstrative Exhibit 6.
A Mark Twain, the greatest of the American novelists, certainly one of the greatest, made this statement many times, and he said "Giving up smoking is easy. I've done it a thousand times."
Q What message do you think that communicates?
A It's very hard to quit once you become addicted to
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tobacco.
Q How about popular music, have you found an example of popular music spreading the message that smoking can be both bad for your health and hard to quit?
A Yes. The example that we'll look at in just a second comes from 1947, and it involves a country-and-western entertainer whose name is Tex Williams. And what is going to happen is, it's going to be a song, the title of it is "Smoke, smoke, smoke that cigarette." And, well, maybe we should go ahead and play it.
MR. KRAUS: Number 33, please.
(Tape played.)
BY MR. KRAUS:
Q Was that a popular song in 1947?
A It actually jumped or went to the top of the charts. It was number one on the country-and-western charts. It was number one on the general sort of hit-parade list. This was actually the first million-record seller for Capitol Records. This was an enormously successful song.
And there are certain things that we've talked about that I think are very important to point out. The "enslaving" effects, you got to have another one. That is pointed out. And certainly there are suggestions that you are going to be visiting St. Peter, if you are not careful.
Q How about movies? Have the messages about the health
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effects of smoking and the difficulty in quitting been reflected in popular movies over the years?
A Yes, they have.
Q How important is that?
A Well, I think it's very important, again, because so many of us go to the movies, and we're going to see certain kinds of things, and certain elements will be featured. And certainly, there are a lot of things that were not very kind to the cigarette. And in addition, there were certain kinds of, as we'll see, there are certain kinds of signs and symbols that will be there, that will, again, point back to a notion that smoking is not healthy, and that smoking is not necessarily good for -- from the point of view of good health.
Q Have you collected some examples of that?
A Yes, I have.
MR. KRAUS: Your Honor, we have about a four, four-and-a-half minute clip. If we could reduce the lights, it would be a little easier for the jury to see it.
THE COURT: Surely.
(Tape played.)
THE COURT: That's the end of the movie?
MR. KRAUS: The end of the movie.

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THE COURT: You have time for another one or two.
MR. KRAUS: I had not thought about asking you if I could quit, your Honor.

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BY MR. KRAUS:

Q Three Stooges, the Coffin Nail Cigarette Company?

A Right.

Q What's the significance of that to the relevance of your research?

A This goes back to the 1930s. We've talked about this term "coffin nail." And here, we have the Stooges, who are supposedly winning a lot of money. It turns out they win very little, and it's from this particular cigarette company. So, you have that immediate identification with cigarettes in that particular instance.

Q In one of the next movies, you had Jimmy Cagney describing himself as an addict?

A Yes.

Q What's the significance of that?

A The significance is that of the association of addiction with nicotine and with smoking cigarettes. We had, in one of the examples, we have a nicotine fiend described. And we could go on and on.

One of the very best there, I think -- and how our vocabulary works and how we communicate through words, when Frank Sinatra comes in and he's looking for a drink, he doesn't say, give me a coffin nail. He skips over that. He says, give me a nail. And there's an immediate response as to that particular action. He didn't even have to include the

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first of the two terms, and the audience completely understood. That was back in 1953.

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CONTINUING DIRECT EXAMINATION

BY MR. KRAUS:

Q Then we have Ray Walton as the devil in Damn Yankees describing it as a filthy habit he couldn't quit?

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A Exactly.
Q Same message?
A Same message. I guess we could say habituation, addiction, whatever would be appropriate.
Q How do those kinds of references in movies spread the message or help to spread the message that cigarette smoking is both dangerous and hard to quit?
A I think the they function because while some of this is done lightly with James Bond, we see his lungs, see he's smoking, there's a gun there, he could be put to death, I think the way this does this, it's a certain kind of image in our popular culture we associate with a particular product and that is the real -- I think that is the real message. That message is being given over and over and over again. We know that with the Bond films. For instance, From Here to Eternity, as another example, the audiences were in the millions.
Q Was this an exhaustive list of these kinds of examples from popular movies?
A I think we could come up with many more.
THE COURT: 10:00 o'clock Monday, please.

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(Jury leaves courtroom.)
THE COURT: You may step down.
THE WITNESS: Thank you.
THE COURT: I'm tell the Plaintiffs right now you're not going to show Fred Astaire, all those other enjoying smokes while they kiss girls to show how smoking is induced. If you want to show films, you're going to have five minutes, that's it, but you can ask him about them.
MR. WESTBROOK: But we do have five minutes?
THE COURT: Yes.
MR. KRAUS: We only had four and a half.
MR. BERNICK: As long as they're as good as those.
THE COURT: Are there any applications?
MR. MANSFIELD: I know we have a good deal to do tomorrow. What time does the Court want us?
THE COURT: I think we could probably start about 9:30. We may have to break for some other motions, if that's acceptable to everyone. I'll pick up the usual morning motions tomorrow to add to what we have. Do try to get the documents straightened out. Good night everyone. Thank you.
MR. WESTBROOK: I believe we're making progress, your Honor.
THE COURT: Well, you're entertaining the Court. I don't know if that's progress.
(Whereupon this matter concluded for this date.)

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I N D E X

W I T N E S S E S:
W. Kip Viscusi
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CROSS-EXAMINATION 4405
REDIRECT EXAMINATION 4486

J A M E S K I R B Y M A R T I N
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